

THE
ENGLISH
PHLEBOTOMY
—
LOND: 1592







3032

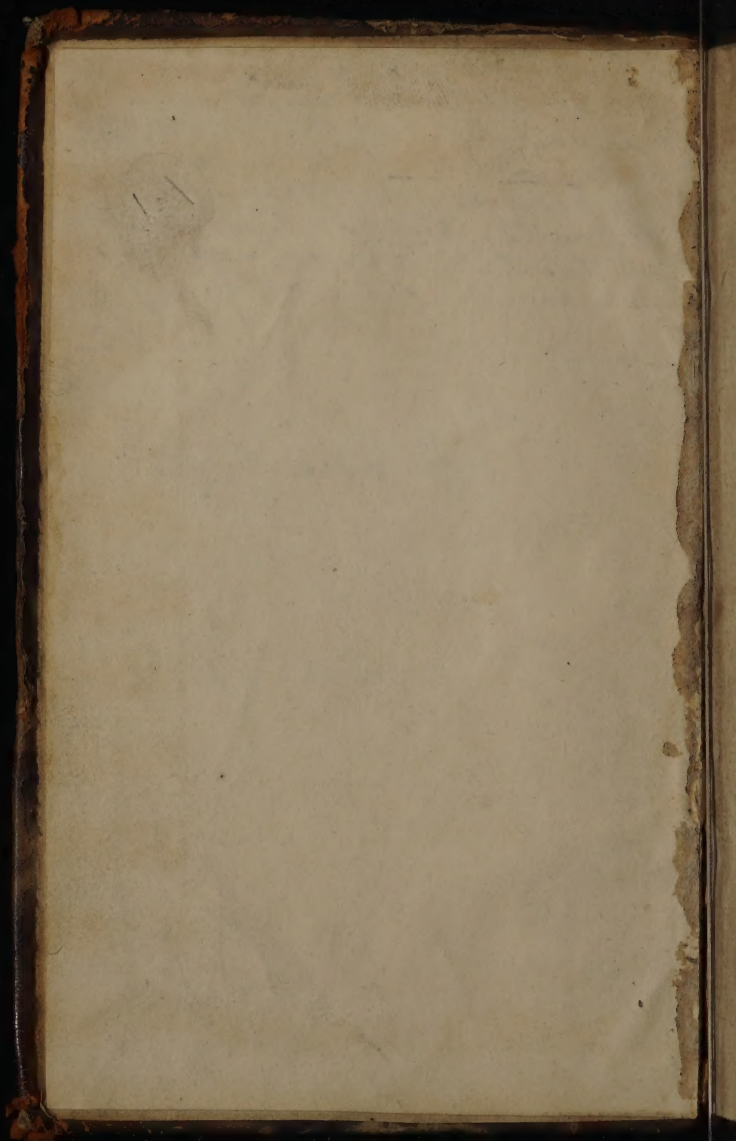
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L. LIV

16/8

By Nicholas Gyer

S.T.C. 12561

A very curious & scarce little work
interspersed with verses & interesting
also on account of the long dedication
to Reginald Scot. the author of
"The Discovery of Witchcraft."
The author Nicholas Cyax is not
mentioned by Lowndes and Walt
only mentions this work.



THE ENGLISH

Phlebotomy: 83047

Or,

Method and way of healing
by letting of blood.

*Very profitable in this spring time for the pre-
servative intention, and most needful at the whole
yeare beside, for the curative intention
of Phisick.*

Collected out of good & approued authors at
times of leasure from his other studies,
and compiled in that order that
it is: By N. G.

Prover. 30. vers. 15.

The horse-leach hath two Daughters which crye, giue, giue.

Prover. 27. vers. 9.

*Balme and sweete incense make the heart mery: so sweete is
that friend that giueth counsell from the heart.*

¶ Imprinted at London for *Andrew
Mansell*, and are to be solde at
his shop in the Royall
Exchange.

1592.

Method and way of healing

by James of blood

Printed in London for W. G.


Collected out of good & approved authors

Printed in London for W. G.

Printed in London for W. G.

1722

To the right vv orshipfull,
Master Reginald Scot, Esquire;
dayly increafe of wealth, Wor-
ship and wifedom, in the true
feare of G O D.

 HIS pleasant and profitable practise of blood letting (Right Worshipful Sir) hath always, and that worthely been accompted and called of the ancient and latter Phisitions, *Vnum è maioribus remedijs*, one of the greater remedies in the Arte of healing; (not as I take it) for that the same is of greatest charge to the patient his purse, a veine being commonly opened for twelue pence: but because if the same be done with skill according to Arte, it bringeth great profit to health, without any great diminishing of wealth. How this so great a remedy in both the intètions, of Phisick, Preseruatiue and Curatiue, is greatly abused by vagabūd Horse-leaches, & trauailing Tinkers, who find work almost in euery village, through
A 2 whose

whose wickednes (hauing in truth neither
learning, knowledge, witte, nor honesty)
the sober practitioner and cunning Chirur-
gian liueth basely, is despised, and account-
ed a very abiect among the vulgar sorte.
The whole world with wofull weepings
too too plentifully can witnesse, and many
godly and faythful Christians here and else
where with pinching paines and griping
griefs euen to the last gaspe, haue pitifully
felt. For these kinde of men are so farre off
from repayrers of mennes bodies, as they
would seeme to bee that they are, rather
marrers and manglers of men, women and
children, without all care to men whome
they ought to tender, foster and cherish,
without all conscience to God, to whom
they must one day render a reckoning of
this their desperate and diuelish dealing.

No man brought vp among Christian-
me of any practise or calling, but hath long
sithence learned this lesson; how frayle, in-
firme, and weake soeuer our mortal bodies
are, yet it hath pleased God to call them
his owne temples, his owne instruments,
and his owne dwelling places: an vnspeak-

aloud

A

able

able dignitie, farre aboue that for which
Alexander Magnus so contended, when
 hee would needs bee called the sonne of
Jupiter.

Paul to the *Thessalonians* willing vs to
 keepe our vessels, viz. our bodies in holy-
 nesse and honour, suggesteth vnto vs these
 two poynts: first the fragilitie and mortali-
 ty of our earthly bodyes, comparing them
 to vessels of earth, and pots of clay, which
 break with a blow, & perish with a knock:
 secondly, that yet they are not our owne
 bodyes, to vse as wee list to sensuality like
 brute beasts; but to keepe them carefully,
 as vessels which the Lord hath censed and
 washed with his owne blood, to his owne
 glory in all holynes and honour.

The Priests of *Baal* cutting and launſing
 their owne bodies with a vayne and wic-
 ked supposal, that in so doing they pleased
 God, grievously sinned (as diuers affirme)
 both agaynst nature and godlines; against
 nature, because no man euer yet hated his
 owne flesh, but nourisheth and cherisheth it
 as the Lord doth the Church: against god-
 lines, because works of pietie and religion

The Epistle

in our selues or in others, they either quite surcease, or are greatly hindered when the bodies of men are decayed in strength, weakened in vigor, languished with sickness, or finally destroyed by death.

To let passe these things which diuers deliuer out of their pulpits, of the excellencie and dignitie of mans body: haue not the Philosophers in the schooles called the same *Microcosmos*, *Orbiculus*, a little world most beautiful in forme, & fayrest in shape, excelling farre all other liuing creatures whome the creator hath made. In whose braine, as in *primo mobili*, is fixed that inestimable Iewel called *Reason*, no monster or Idole, but the mother of all Artes & Sciences, by whome (God guiding the same) are wrought & inuented marueilous matters by Sea and by land, in euery matter of speculation or practise. This I haue hitherto discoursed to this drift, that those blinde buffards, & runagate Artists, might at length see and consider that they are no way willed or warated like butchers to cut, rend and teare, the bodies of men without skil, either in letting blod or any other practise

Artise of Chirurgi, but like brethren to cure, repayr and amend that which is amisse, refusing no paine taking for their own parts, nor reiecting due consultation with men experienced, that so the noble Science of healing may be generally honored, the diseased recovered, & the skilful workman worthily in fine rewarded.

To met with this mischief acording to my Mediocritie, and that such as are desirous of this practise either for pleasure or profite, might be somewhat fraughted with a few pithy instructions and necessary rules in the same, and so at length attaine to the most exquisite cunning & deep knowledge therof: I haue thought it good not onely to publish this my rude collection, conteining (if I be not deceiued) the whole handiwork of Phlebotomy, but also to counteruaile my default as rudely, (yet most humbly) to request your worships fauour for the protection thereof.

But for as much as *Seneca* that christian Ethnicke (for so dooth *Erasmus* terme him, for his profound wisedome & deepe indgement) willet vs in bestowing of any

gift to be careful that it be fit for the estate of the giuer, and also meete for the condition of the receiuer, least in stead of expected thanks disgrace may growe, and what the giuer meaneth of good will, may perhaps by the receiuer either limping in iudgment, or freezing in delight, be little regarded, & lesse countenaunced: I am in a worde or two to shew that for my part I haue not (as I thinke) much swarued from the sound aduise of the Philosopher, in making your worship patron of my poore seely paines.

First for that euen your selfe haue already in print in your booke called *The discouery of VVitchcraft*, openly & biterly enueighed against one sort of blood thirsty men, as I doo nowe against another sorte: namely witchmongers, who are daily and houely without iust cause conuenting before Magistrates, and haling to the halter (if the Magistrates dexterity in the administration of iustice did not moderate their malice in murtheting) poore, plaine, seely and simple innocents, and olde women: whom by triuolous euidences, incredible proofes, vayn ghesse, preiudicate presumptions, meece impos-

impossibilityes; they would haue condem-
 ned and executed for witches. These men,
 in mine opinion, should farre better please
 God, and much better deserue, of the Chri-
 stian cōmon wealth, if they would speedily
 turne from this their heathenish Infidelity,
 extream folly, & barbarous cruelty, & seek
 rather by due execution of lawe & iustice
 the blood of these bloodsuckers indeede,
 who for want of skil in this profitable pra-
 ctise of blood letting, in euery corner of the
 countrey without controlment, either pre-
 sently kyl, or at leastwise accelerate the im-
 mature deaths of dyuers faythful Christiāns
 to God, and good subiects to their Soue-
 raigne. A poore man that robbeth or killeth
 but one man, is strayght way trussed vp at
 Tyborne, and these desperate dicks which
 range the countrey with a budget of
 grosse stufte, a boxe of salue, and a case of
 tooles, liuing in the Sanctuary of Idlenes,
 skilful in palmestry, tellers of fortunes, cōū-
 terfeyting themselues to be Iewes or Egip-
 tians: imitatyng doctor *Tocrub*, with strāge
 lookes, diricks, pricks, crosses, figures, and
 such foolish fantasies, may safely kill thou-
 sands:

sands: no more the come vnder theyr hands, which is as many as they can get; for who is so bolde as blind Bayard? and withal me must giue them money for murthuring, whereas if they had had their iust hire, they should haue had hanging.

Secondly, I haue thought your worship a meet person to dedicate this booke vnto, not so much for that it was penned at vacant times during mine abode at *Scots Hall*, vnder which roose I came by your good meanes; but rather for that, thorow you whē the same was first penned it passed the view and apportatiō of that right worshipfull and wise man *M. Doctor Coldwel*, a pillar in this our age of that noble profession. I assure you I thought my selfe happy to haue my little Latine examined by the direction of his iudgement to whose worthy and famous faculty, the matters therein mentioned were most properly appertaining.

Thirdly for that being thorowly acquainted with your gentlemāly conditions, I am not ignorant of that ardent affection which you haue alwaies caried vnto your friends, Gentlemen. I meane of like qualitie with
your

Dedicatorie.

your selfe for, *Amicitia inter pares*, Loue is among like, as sayth the Philosopher, whome as you loue earnestly in time of their felicity, and health, so you neuer loathe in their calamity or sicknes, putting in vre that work of compassion & Christianity commended, and commanded vs in the Gospel of visiting the sick: which work as you now execute frendly without feare, so in fine you shall not finde without reward. In visiting your sick friends, for *in-
experituraperituri viuimus*: this booke (if you will vouchsafe to bestow some vacant time in reading of it) may stand you and them in some stead, though not by cūning in the practise, yet by counsell in aduise: for verily it contayneth the right Methode and way of healing, practised by the auncient fathers in Phisick, *Hippocrates*, *Galen* and *Auicen*. And as you like a good Christian desie al magical cures which are but cousonages, & would haue other men doo the like: so here you may spie a very ready way rightly to cure all humane diseases, compendious & not costly, both for your selfe and for your frined. To let passe

Lysima-

The Epistle.

Lysimachus a worthy Caprayne to *Alexander*, *Artemisia* a noble Queene, *Gentian* King of *Illyrica*, King *Salomō*, & Queen *Saba* taught by *Salomon* in the secrets of Phisick and Nature, to the encouragement of all learned and wise gentlemen whatsoever they doo otherwise professe) to take now and then some Phisicall discourse in hād. I produce the example of *Dioscorides*, no meane gentleman, but a noble Knight of *Egipt* who serued *Anthonius* and *Gleopatra* like a worthy Souldier in the field, & was so delighted euen on the midst of his martiall affayres with the study of Phisicke and Surgery: that one way v^z. in the noble knowledge of Oiles, he excelled all men before his time, or since.

For my selfe that am the giuer, if it bee objected that this labour is triuolous, for that other men of far greater gifts than my selfe, euen of the self same profession, haue writtē of this argumēt in the english toung long agoe, as namehe *Sir Thomas Eliot*, & *Doct^r Bullein*, with diuers others, men of famous memorie: the one writing a Castle, the other a Bulwark of health: My answer
is

is, that hardlie discusse we that argument, whereof something before to that or the like effect hath not bin extant; & this I add beside, that these men intreating of manie things in one booke, were constrained euen purposeli to pretermite some, yea diuers needful instructions which here may bee had largely discussed.

If it be said that a matter of Phisick is no fit argument for a Diuine to handle, albeit I might easily wash away this with the apparant examples of diuers Diuines to the contrarie, as of old *Doctor Turner*, *Doctor Penne*, & *Doctor Coldwel*: Now with diuers others yet will I say somewhat more, namely, that both these the Diuine and the Phisition work vpo one subiect, they assemble themselves in one place, *vz.* the chamber of the sick, they both visite and busie themselves about the sick to doe him good, he is no longer *Homo* but *Cadaver* if there bee once a separation of the soule from the bodie: *Vbi desinit Philosophus, ibi incipit medicus*, where the Philosopher endeth, there beginneth the Phisition: so may it be saide likewise in some sense, *Vbi desinit medicus, ibi*

ibi incipit Theologus : where the Phisition
 fayleth for the bodie's recouery, there the
 Diuine is required for the soules health. For
 mine owne parte I am fully perswaded in
 mine owne conscience (think or say others
 what they list) that I haue done more good
 to the Church of God and common welth
 of this land, in this simple translatiō or col-
 lection, call it whether you wil (for I haue
 but borrowed it of others & brought it in-
 to the english) then diuers dogged Diuines
 of this age, *Penry, Browne, Barrow*, and the
 sectaries I meane, who in stead of the true
 bread of life that came down from heauen,
 euen Iesus Christ with his whole & whol-
 some doctrine, fed most dangerously the
 soules of men with diuillish deuises, & their
 owne fantasies accounted theselues terrene
 Gods, & desirous of nothing more then a-
 mong their auditors, to haue their own po-
 sitions horrible & hereticall to be admired
 & embraced as oracles from heauen. If the
 end of this more then Pharisaical hipocrisie
 be not the disturbance of Gods peace & the
 Queenes, the wisest men in this land haue
 viterly lost their wittes, which these men
 with

with al their learning, if they haue it in such plenty as they would seeme to haue, shall neuer make me beleene for a trueth. Experience of these daies prooue, that by the meanes of these men, we are al so generally infected with Cleargie factions and Laie factions, that as we are full of fantasies, so we follow nothing but factions, which I pray God speedilie redresse for his great mercies sake. Finally as Atheisme is most iniuriou y objected to him that holdeth these positions: God to be the creator of al things: That God only seeth & searcheth the harts and reines of men: That he onely worketh miracles: That he onelie maketh thunder, lightning, and tempest, and restraineth the at his pleasure: That he onely sendeth life & death, sicknes & health, wealth & woe, &c. And as he is most wrongfullie & wickedly adiudged a Papist, who detecteth the abomination of their Idolatries, their pestilēt practises of knauerie & cousonage, their absurdities in opinion and impurities of life, (al which & much more then I here now speake of or can call to memorie) are extāt in print, & so in the sight of the whole world.

world if men would not be wilfully blinded: so by this little labour beside the exercises of my peculiar profession, it may evidently appeare what loue & liking I haue alwaies borne to good, godlie and profitable studies, and how I loath loytering, and so consequentlie lust which is an vnseparable companion of Idlenes & slouth, how I haue rather passed (as I hope) with commendation from *Paul* his Epistles to *Galen de Sanitate tuenda* for publike profit, than to *Ouid* his *de Arte Amandi* with condemnation for my priuate pleasure.

Good Sir as you haue been hitherto euē (as I may saie) zealous for my preferment, and likewise ieaious ouer my credit, an assured testimony of your true loue toward me, so I beseech you take in good worth at my hands this poore gift which I offer of pure good will, which if I once perceiue that you do, I shal think my trauail sufficientlie recompensed: and my selfe enforced during life to the accomplishment of your good pleasure, so far forth as my tenuitie shall be able anie waie to extend.

Your Worships unfayned welwiller & so command in
what I may, Nicholas Gyer, minister of the word.

The English
PHLEBOTOMY

OR

Methode and way of healing, by
 letting of blood.

Of fulnesse, emptinesse, and their
 diuisions. Chap. 1.



That this treatise of blood-letting may haue an orderly proceeding; we must begin with *Fulnesse & Emptinesse*, which haue betweene them selues a mutuall relation. Abundance or fulnes therefore is called of the Greeians *Pleonexia*: and after *Galen* in his booke *De plenitudine* it is two fold. One fulnesse is in qualitie, as namely, when the bare qualitie exceedeth without Humor. The other is of quantitie, as abundance of meat or of Humors.

Abundance of meat is called of the Greeians *Plesmone*; of the Latines *Sacietas*: where we are to note, that some interpreters translate verie ill, for *Plesmone*, *repletio*: as in the second of the Aphorismes. *Aphorif. 22. Quicunque morbi ex repletionione fiunt curat euacuatio*; when it should be thus conuerted: *Quicunque morbi ex satietate fiunt, &c.* All those
 B diseases

diseases that come of fulnes, euacuation doth cure.

Abundance of meat, called of the Latines *Satietas*, is also two-fold, according to *Galen* in his 2. booke of Aphorismes, *Comen.* 17. One according to the great largenes or capacitie of the veines or vessels called of the Latines *quo ad vasa*: as when such abundance of meat is receiued, as thereby the stomacke is ouerstretched: the other abundance is according to natures strength, called *quo ad vires*: as when more meate is eaten, then natures force can well overcome.

Abundance of humors is also of two sorts. One of all the humors called in Greeke *Plethos* or *plethora*: in Latine *plenitudo*, or *multitudo*: whereof *Galen* writeth in his 13. booke. *Metho. cap. 6. Vbi autem aqualiter inter succi ad aucti sunt, idem plethos & plethora Graci vocant, nos succorum plenitudinem seu redundantiam dicimus.* V When as the humors are equally increased betweene themselves, that the Grecians call *plethos* or *plethora*; we call it, abundance of humors. Now whereas *Galen* saith in his 2. booke *de Compos. Medic. secundum locos, cap. 1.* That to be abundance of humors, when onely blood is increased: wee are to vnderstand that blood there signifieth impure blood, & such as is mixt with other humors, called blood, of that which

which principally there aboundeth. For it can not be, that only pure & good blood should be contained in the veines, without some mixture of choller, flewme, or Melancholie: which must be so likewise vnderstood, where it is saide that any other humor aboundeth, the same is not pure alone without mixture of others, but that humor ioyned with others aboundeth in the vessels.

The second abundance of humors, is called in Greeke *Cacochymia*, in Latine *Vitium succi*, or *vitiosus succus*: and it is when one humor alone aboundeth. Hercof also Galen speaketh 13. *Meth. cap. 6. Vbi flaua bile, nigra, vel pituita, vel serosis humoribus repletū corpus fuerit: Cacochymia .i. succorum vitium dicimus.* V When the bodie is replete with yellow or black choler, with flewme or watrish humors, we call it *Cacochymia .i. corruption of humors*. And in the end of his booke *de Plenitudine* he saith: *Plenitudo est copia humorū in vniuerso animalis corpore.* Fulnes is abundance of humors in the whole bodie: & a little after, he plainly sheweth the difference between *Cacochymia* & *Plethora*.

Plenitude or fulnesse of humors, is also two-fold: one in regard of natures strength, called *Quo ad vires* or *virtutem*: which is, when the humors so abounde, that they oppresse and much grieue the naturall forces

of the body. And although there be not such abundance of blood in this fulnes *qua ad vires*, as is in the other *qua ad vasa*: yet those humors which are in the body, oppresse the powers of nature, whereupon nature being oppressed and not able to gouerne those humors: they being as it were forsaken of nature, lose their goodnes, and of force putrifie. And of this fulnesse these are the signes: heauines, stretchings, a sensible werines, hauing a feeling like an vicer: of which *Galen* sayeth 2. *Aphorif. Aphorif. 5. Spontanea lassitudines morbos prannunciant*: Voluntarie wearines forsheweth diseases.

The second fulnes of humors called *Quae ad vasa* is, when there is such abundance of humors or of blood; that the veines and vessels are greatly extended or stretched: so that it is to be feared, least the veines themselues breake. And therefore *Hippa* in the firste booke of Aphorismes: *Aphorif. 3.* woulde haue in wrestlers this dangerous fulnes speedily euacuated, that the bodie might begin againe to be nourished. And this plenitude *qua ad vasa* is either of pure blood only, or of all humors with the blood. And this fulnesse hath these marks: rednesse of color, swelling, veines full & stretched. Of these two Plenitudes and their signes speaketh *Galen* in his booke *De Plenitudine*, reckoning vp these

these markes: Swelling and stretching of the veines, rednesse, lumpishnes of the bodie, a slouthfulnesse in motion of the bodily members. Also *Method. 9. Cap. 5.* He reckoneth these signes of repletion *quo ad vasa*: obstructions; stretchings, swelling & rednesse: Of this twofold, read *Auicen, Secunda primi doct. tertia. cap. 3.* Also *Galen* in his booke *De Plenitu. & Metho. 9. Cap. 5. & 10. lib. eiusdem Cap. ultimo.*

Because these pointes taken out of the bookes of auncient learned Phisicians, may seeme as yet hard to the vnskilfuller sort, that yet rashly and without skill or regarde of these things vse the practise of letting bloud: It will not be lost labour in my poore iudgement, with more plaine wordes to illustrate their sayings, if it may be, to the vnderstanding of all men that are this way studious, and yet want the helpe of the Latine tongue & Latine writers.

It appeareth by the premisses what Repletion is, *vz*, a superfluous abundance of humors in mans body, which happeneth two waies, either in quantitie or in qualitie.

VVe may also learne, that repletion in quantitie, is when the foure humors are more in abundance than is proportionable to the bodie that containeth them, or when one humor much exceedeth the rest in quantitie:

For the blood contained in the veines is not simple, or of one kind, as hath beene said; but consisteth of flegme, blacke & yellow choler, and pure blood mingled together, which humors notwithstanding so mingled, by common agreement and continuall vse of speaking: we commonly call blood.

The iust and agreeable proportion of humors is this: That in a man thoroughly healthfull & of good temperature: there is lesse yellow choler than Melancoly: lesse Melancoly than flegme: lesse flegme than pure blood: so that that blood is accounted best, not that hath like proportion of all humors, but such an equalitie of the foure, as hath beene now specified.

Blood therefore faulteth in quantitie when the humors being settled in a iust proportion, do passe and exceede the agreeable measure of Nature: for then the whole frame of the bodie swelleth; the veines aboue measure are stretched, and all the members, specially after any exercise, are wonderfully retched. This constitution of humors, though they be good, yet it faulteth, because it is come to an immoderate abundance, which accustomedly is wont to bring great perill. VVhether therefore there be in the bodie abundance of other humors aboue the blood, so that the equabilitie of the proportion be not observed

ued that waie: or that there be too much abundance of pure blood. Yet because the pure blood in the permixtion greatly exceedeth the other humors; it is a fault not in the qualitie but only in the quantitie: and therefore both of these are contained vnder this kinde of repletion in quantitie: and this is simply, absolutely, most properly, & commonly iudged repletion, & is called *Plenitudo ad vasa*, as is afore said, because it doth thoroughly fill the large capacitie of the veines, which are termed the vessels or receptacles of the body, though it enforce not the powers thereof. First therefore, where all the humors superfluously increase, filling & extending the receptories of the bodie, as the stomacke, the veines, and the bowels: It is most properly called in English fulnesse or repletion in Latine *plenitudo*, in Greeke *Plethora*, as before.

Repletion in qualitie; is when the blood or other humor is hotter or colder, thicker or thinner than is conuenient to the bodie. This is the seconde kinde of repletion, mentioned by the foresaide auuncient writers in Physicke, and which is referred to the force, strength and abilitie of the bodie,

In this repletion; although the vessels of the bodie be not so much puffed vp, neither swell, as in the other: yet they containe more good blood and nourishment

than the nature of the patient can wel rule or ouercome: For a litle nourishment to a weak nature, is often troublesome and grieuous: and although at the first it be right good; yet it doth not long so continue: but being forsaken of the bodily heat, as not able to concoct the same: in protract of time and number of daies, it corrupteth and becommeth the causes of diseases.

This constitution of the Greekes, properly called *Cacochymia*, is when the bodie is infarced either with choler yellow or black, or with flewme, or with watric humors; and of late writers is thus defined: *Cacochymia est vitiosa humoris qualitas, qua is a iusta mediocritate desciscit*: *Cacochymia* is a corrupted qualitie of the humors, by reason whereof the humor departeth from his iust mediocritie. Vnder which *Cacochymia* is contained all corruption of humors in qualitie: wherby the powers of the bodie are hindred from their proper functions, wherby also the whole bodie waxeth filthie & daily decayeth.

Of this corruption of humors in qualitie, one kind is somewhat better and more tollerable: as namely, when either superfluous humors are excessiue heaped vp together; or when the humors mixt with the blood, do not keepe their iust and naturall concord or proportion: the other kind is worse and intollerable:

tollerable: as when the superfluous humors or iuces in the bodie, both *primi & secundarii*; both the principal humors, and these next the principall are fallen into corruption, from their naturall and conuenient temperature, which is the destruction and corruption either of the substance or of the temperament. Againe both these happen sometime with rottennes and putrification, sometime without. V Where note, moreouer that the name *Cachochymia* largely taken, comprehendeth also the corruption of the excrements. *Hippocrates Aphorif. 15.* saith, where meate is receiued much aboue nature, it causeth sicknes. *Galen* in his Commentaries declaring that place saith, more meate then accordeth with natures measure, is named *Replecion*. And afterward hee expoundeth that worde aboue nature, to signifie too much and superfluously: As who would say, where the meate is superfluously taken, it causeth sickenes. Meate but a little exceeding doth not forthwith cause diseases, but may yet keepe the bodie within the bounds of health, for meat ingendring sickenes must not a little, but much exceede the exquisite measure.

It appeareth by *Galen* that in his time certaine denied this foresaide diuision of fulnes, set downe by the auncient writers, and approved of the late practisioners, saying that
the

the same was to bee considered onely by the strength of nature, granting *plenitudo secundum vires*, but not *quo ad vasa*. These he confuteth in his booke *de plenitud.* about the beginning in these wordes. *Qui ex ipsis tantum viribus plenitudinem metiuntur hi videnter nunquam vtres prater modum repletos vidisse, nec se etiam plus quap ar est unquam impleuisse cibo ita ut ventriculus inde distenderetur. 1.* Those that measure Replecion onely according to the forces of nature, they seeme neuer to haue seene mens bodies puffed vp like bladders or bottels, neither at any time to haue stuffed themselves with meate, more than moderation required, and whereby the stomacke was ouerstretched.

Againe, others in *Galens* time graunted onely that plenitude which is *quo ad vasa*. and denied the other *quo ad vires*. These hee confuteth in the same place in these vyordes. *Itaque subiecimus duas esse tum notiones, tum relationes multitudinis: alteram ad robur viresque illius qui deferet, alteram ad eius qui suscipit capacitatem. Idest,* Therefore vve haue added that there are two notions and reportes of fulnesse, one according to the strength of the patient, the other after his capabilities.

The discommodities vywhich happen by Replecion are manifold, moistnes thereby is too

too much increased, and naturall heate quenched, againe naturall heate resolueth somewhat of the superfluous meate and drinke, and of that which is resolved of meate vndigested, proceede grosse and vndigested fumes, which ascending vp to the heade, and touching the rim wherein the braine is wrapped, causeth headach, trembling of the members, dimmes of sight, and many other diseases.

Moreouer the sharpenes of the said fumes, pricke and annoy the sensible sinewes, whose roots are in the braine, and from thence passeth through all the vvhole body. The said fumes ingendred of Repletion, and piercing the innermost part of the saide sinewes called sensible, greatly annoy the animall powers, there beeing by occasion whereof Vnderstanding and Reason both, as touching the vse of them, are vvonderfully let and troubled, and likevvise the tongue vvwhich is Reasons Expositor, is greatly depriued and hindred of his Office: As it appeareth in them vvwhich are miserably drunk, and in those vvwhich haue most extreame and grievous paines in their heade, proceeding of Repletion.

Thus much harme commeth to the body by too much nourishment, and although the stomacke doo his Office in concoction, yet the

the veins too abundantly filled, are spread out, diuided, stopped and stuffed with winde, and greatly grieued. It is apparant that of replecion and fulnes of the veines (then the which in diseases a more hurtfull thing cannot chance) diuers infirmities doo come, and the replecion of the belly, though the excesse may be expelled by vomit or sedge, and so is inore tollerable than fulnesse of the veines: yet it is likewise to bee disallowed. If a man haue at any time too much ingorged himselfe by and by he may assay to vomit: for though hee doo well digest it, yet there is some danger, lest the veines be oppressed with fulnes: especially when the party continually liueth intemperately, neuer regarding or minding euacuation. It is good therefore to vomit first, before the meates bee corrupted in the stomacke, if any impediment hinder vomiting, a sedge by stoole is a present helpe. If neither serue, sleepe long, and oft in drinke vse warme water. V When the surfet is sufficiently digested chiefly by sedge, it is expedient to wash and vse fomentations. i. plaisters mittigating paine, and a little to tast of salt meates, and to drinke wine or beare alaid or tempered with water. These things by the way touching remedies for surfetting, which in our daies is too vsuall, to the great dishonour of God, and the certaine destruction of our bodies, yea, and

and of our soules also, if G O D grant vs not grace speedily to repent and amend. But if neither siege, nor timely digestion of the meate receiued, dōo not insue our surfettings; then the signes of replecion are to be looked for, which are set downe by *Oribasius Exposit. lib. 1.* which are these that followe: as Losse of appetite, delight in nothing, sloughthfulnes, dulnes of wit and senses, more sleepe than was accustomed, crampes in the bodie, starting of the members, fulnesse of the veines, thickenes of the pulsies, horror and shroueling of the bodie mixt with heate.

But the generall signes of abundance of bloud are these: bleeding at the nose chiefly forth of the right nostrill, spitting of bloud, veines full and great, chiefly in the face, rednes of colour, a ponderous waightines of the whole body vnapt to any motion, an vnaccustomed drowfines, a sluggishnes of minde without any euident cause, the skinn stretched, pulses very full, debilitie of sight, grievous dreames, plenty of sweete spittle in the mouth, swellings and blushings in the face, heauines and painefull wearines in the shoulders as it were after labour or bearing great burthens, vrine thicke and red. Replecion knowne by these notes, except it be ruled by Phlebotomy or otherwise, it choketh the naturall heate of the body as *Galen* saith, 1. *Aphorif.*

*phorif. Aphorif. 3. Nimia repletio calorem natu-
 rum extinguit. Too much fulnes extingui-
 sheth naturall heate. Also Metho. 13. cap. 6.
 Plethora tum sanguinis missione curatur, tum
 frequenti balneo, exercitatione, fiftione & dige-
 rentibus medicamentis. Repletion is cured by
 bloud-letting, often bathing, exercise, rub-
 bing, and digestiue medicines. Looke more
 in Galen 3. & 6. de tuenda sanita. These
 men therefore in vvhome bloude so aboun-
 deth, are to bee holpen by *Phlebotomy*, by
 opening *Mediana* or *Cephalica*, or applying
 of Boxing-glasses with icarrieng the place
 first, or othervvise as after shall bee declared.
 Remembring by the way, that if either pur-
 ging seeme too long, or the opening of a
 veine cannot bee done accordingly: that in
 these cases *Electuarii succi Rosarum* are good
 to purge bloud. But hercof there is no place
 to speake further at this time.*

Finally it is very behouefull to knowe in
 vvhat place the corruption or ilnes of the
 contents of the body is placed, or where the
 Repletion is, before vvce can addresse our
 selues fitly to euacuate. That fulnes there-
 fore vvwhich of the Greekes, vve haue said to
 bee called *Plethora*, is chiefly resident in the
 veines and habite of the body, and this be-
 ing an abundance of all the Humors in quan-
 titie, is euacuated by bloud-letting or ope-
 ning

ning a veine, and with cupping-glasses. The Repletion called *Cachochymia* beeing an abundance in quantity of one Humor, is in the whole body or in some particuler part. If *Cachochymia* bee in the vvhole: it is euacuated by purgation, by generall sweate, by abstinence, and that kind called *insensibilis euacuatio*.

Cachochymia particuler is thus euacuated: If it bee in the belly, by vomit and by siege: If in the entrailes, | vvith Clusters, Suppositors, and by siege: If in the Liuer, by the Vrine: If in the Spleene, by the Hemorrhoids: If in the Breast, by Coughing: If in the Heade, it is purged through the Nosthrils and roose of the mouth: It in the Raines or Bladder by Vrine: If in the Genitals by Venus: If in the Skinne, by Sweating, Resolving and vvith Cupping Glasses.

And thus I conclude this first Chapter containing the chiefeft and principall points concerning Fulnesse, Emptinesse, and their diuisions. Not intending to vvrite any thing at all of the subtile and abundant definitions and descriptions of *Galen* in his book *De plenitudine*, and likewise in his Commentaries vppon the *Aphorismes* of *Hippocrates*.

For

For I hope it hath here sufficed, to shew what replecion is, the kinds thereof, the operations of them, good or euill: remitting them which be curious, and desire a more ample declaration, to the most excellent workes of *Galen*, where he may be satisfied, if he be not determined to repugne against reason.

What Euacuation is, and of the kinds and differences thereof. Chap. 2.

FOrasmuch as things contained in the body against nature, while they remaine in the body, are the inward causes of infirmities, which by Art especially are to bee remoued: therefore then Euacuation, as a most generall remedy is first of al to be attempted. Euacuation therefore is an expulsion of those things which are contained in the body against nature. There are contained in the body these three, spirits, humors and excrements. The excrements are the ordure or refuse of the belly: vrine and superfluous humors, sent from the braine and the lungs. Humors some are superfluous, some necessary properly called *succi*. i. iuces. Humors superfluous separated from the bloud by natures force, and as vnprofitable for the nutriment of the body: are sent a farre off. As flegme inhereth in the maw, stomacke, and about the entrailes.
yeallow

yeallow choler in his proper coffer, namely the gall. Melancholy in the Spleene: The iuces are conuerted into the substance of the body, nourishing the same: Of this kind are those iuces whereof the bloud is compact, & those otherwise called *secundarii humores*. Nowe each of these are sometime agreeable to nature, sometime repugnant to nature. They are agreeable to nature, when they retaine the right quality and quantity, according to the law of nature for conseruation of health. They are repugnant to nature, when they keepe measure neither in quality nor quantity. And therefore whatsoeuer of these manifestly departeth from the iust meane and measure which nature hath appointed, (because it is the cause of sickenes) if otherwise it cannot be amended, it is altogether to be taken away and expelled, the expulsion whereof is called Euacuation.

The differences of Euacuations are to bee taken of the scituation of the contents and corruptions, which are either *Plethora* or *Cachochymia* as was shewed in the Chapter precedent. The meats and drinkes receiued into the body, if the stomacke and liuer doo their naturall Office, bee altered by concoction, in such wise, that the best part thereof goeth to the nutriment of the bodie, the worst being separated by the members Officiall from

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the

the residue, are made excrementes in sundry formes and substances : which excrementes are like in quality to the naturall Humor, which then raigneth most in the body. These excrementes are none other as was saide, but matter superfluous and vnsaubry, which by the powers of nature may not be conuerted into flesh, but remaining in the body corrupt the members : and therefore nature abhorring them, desireth to haue them expelled. These excrementes are in number three, Ordu-
re, Vrine, Humor superfluous.

Of Ordu-
re are two sortes, one digested which passeth by siege, the other vndigested expelled by vomit. V Where I say digested I meane that it is passed the stomack, & turned into another figure. Likewise I call that vndigested which stil retaineth the figure of meat.

Vrine is the watry substance of blood, like as whey is of the mi-
ke, which out of the meate that is altred, concoct, or boyled in the stomacke, is streyned in the veynes called *Mesacaica*, which proceedeth from the hollow part of the Lyner, and sent by the Raines into the Bladder, passeth by the Instrument which is ordained as well for that purpose as for generation.

Humor superfluous is of three sortes either mixt with any of the foure Humors called naturall, or else it is gathered into the braine,

or is betweene the skinnie and the flesh, or lyeth among the Synewes, Muscles, or Ioynts: Of Humors some are more grosse and cold, some are subtile and hot, and are called Vapors, Now to expell these excrements there are nine sundry kindes of Euacuations. Letting of bloud, purgation by siege, abstinence, vomiting, scarrificing or cupping, sweat, vrine, spytting, sternutation, bleeding at the nose, bleeding by the Hemorrhoids, exercise: and in women there naturall purgations. But in this Treatise I will onely handle that Euacuation which is done by opening of a veyne, by Cupping-glasses, and by Leaches, shewing the commodities which by the discrete vsing of these, come vnto the body of man.

And that the way of Euacuation may bee the more easie: wee may deuide the body of man into three general Regions, which being inclosed in their proper limits, haue not onely diuers receptrics of superfluities, but also diuers waies to purge the same.

One and the first Region is extended from the meat pipe called *Oesophagus* to the middle part of the Liuer, wherein are contained the maw, the stomacke, the *venies Mesentericae*, as many as come to the entrance, the hollow or inner part of the Liuer, the Spleene, and *Pancreas*, that is, a thing betweene flesh and kernel lying betweene the stomacke and the Liuer.

The 2. Region runneth from the iniddle of the Liuer, through the thin & small veines, of all and singuler partes, comprehending the outward part of the liuer, and euery hollowe veine and the greater artery placed by it, and vvhathsoeuer is betweene the Armehole and the flanks.

The 3. Region comprehendeth the muscles, the vppermost skinnes, the bones, and the whole masse of the body, which extendeth from the very entrance and lesser veines through euery part and the outmost skinne it selfe. Great is the diuersity of these Regions, for so much as they are so inclosed within their owne limits, that there is betweene them no fellowship at all. But the greatest diuersity is in their owne proper operations, hauing concoctions, excrements, and waies of purging diuers one from the other. By obseruation and marking whereof vve shall the better proceede in Euacuation.

Beside these generall and vniuersall Regions of the body: there are some more speciall and particular, hauing also excrements, yet not retching so far, nor following through the whole body, of which sort are the braines, lungs, raines, and belly. Hereof are deriued tyvo differences of Euacuations: one generall, the other particular. That is a generall Euacuation which draweth matter vniuersally

ly from the vvhole body . Of this sort are
 Sweate, Bleeding , Vomits, Euacuation, by
 siege. Each of these (thogh specially & for the
 most part they euacuate one Regio or part of
 the body. Yet these also empty other partes,
 though not so abundantly. As vomit first and
 chiefly euacuateth the stomacke , if it conti-
 nue long , it purgeth also the bowels and the
 greater veines, last of all the state of the whole
 body. Euacuation by siege or purging: chief-
 ly and most of all purgeth the entrailes , sto-
 macke, bowels, and the first veines, then the
 greater veines; Last of all the small veines and
 the state of the vvhole body . Opening a
 vaine first exhausteth the veines and arteries
 ioyned vnto them: then the body and all the
 bowels euen til it proceede to the first veins.
 Euacuation by sweate called in Latine , *per-
 spicatio* or *dissipatio per cutem*: First dissolueth
 from the habite or state of the body. Second-
 ly, from the greater veines and arteries. Last-
 ly, from the bowels and inwarde Region of
 the body.

Particuler Euacuation doth onely alleui-
 ate some particuler part loden vvith Excre-
 ments: Of vvich sort are, purging of the
 braine through the palate and nostrils, spit-
 ting of fleame vvhereby diseases of the brest
 and lungs are eased: Pissing forth of sand and
 matter from the raines : Passage of bloud by

the belly or Hemorrhoids : the one cleansing first the lower part of the body called *Podex*, the other the belly, and both of them the hollow veyne called *Vena cava*. V When the wombe therefore is prouoked either with a Clister or a Suppository, or whatsoeuer corruption bee made in any other place through the skinne, it is likewise a particuler Euacuation. A gain, of Euacuations, some are of their owne accord, some are done by Art. Naturall or voluntary Euacuation, is when any thing is expelled out of the body without any medicine, this chanceth sometime even naturally: For nature while it is in health, rightly governeth the state of the body, and doth expell thence whatsoeuer superfluously aboundeth or is corrupted; this Euacuation is both naturall and conuenient. This also chaungeth sometime contrary to nature, as when the strength of the body is so infeebled, that it cannot gouerne and restraîne the Humors of the body, but letteth them quite flow forth: or when the vertue is strong, yet it is sometime so prouoked either with abundance or acuity of the Humor, that it permitteth the Humor to passe of his owne accord out of the proper vessels and receptories thereof: Both these are accidentall, vnprofitable, and besides nature, because the good blood commeth forth mingled with the bad without choise or order,

der. Artificiall euacuation is when the same commeth by outward help & this is twofold. The one right profitable, onely Euacuating that which offendeth in must quantity, & quality. The other contrary to this, extraordinary and vnprofitable, exhausting the Humor that annoyeth not, which commeth by the vnskilfulnes of the Phisition. Nature by her owne force, and by the vertue expulsive, accomplisheth her Euacuation. The Phisition doth his, by diuers necessary helps provided for the same. And in letting bloud he openeth the veyne either with a fine penknife, fleine, or lancet, or some other applyable medicin. Purgation hee attempteth with medicins, expelling euill humors from the body either by vomit, or by siege. Also he expelleth euill humors by breathings, euaporations, exercise, rubbings, mouings, heat, bathings specially sulphurous, & accidentally by abstinence. Also the Phisition vseth particular Euacuations in particular parts (as ye haue heard) Hee purgeth the braine through the nostrils by medicaments called in Greeke *Errbina*. And through the palate of the mouth with medecines called, *Apophlegmatismi*, which chewed in the mouth bring Humors from the head, the brest, and lungs, with medecines called *Berhica*. The Raines and Bladder with *Diuretica*. The wombe or belly with *Hysterica*. Againe,

the belly is softned with suppositories. and clisters: againe euacuation or eruption is made in particular parts by medicines called *Digerentia*. i. resoluing medicins by *Suppuratoria*. i. medicines breeding matter by medicines, called *Amyctica*, *Caustica*, *Id est*, burning things, by horseleches, cupping glasses which drawe bloude with scarrifieng the skinne, by launcinges or cuttings, by iron red hot: All these are vsed of Phisitions.

The kinds of Euacua- tion recko- ned vp of <i>Fuchlins</i> .	{	<i>Phlebotomy.</i>	<i>Purging.</i>
		<i>Vomiting.</i>	<i>Scarrifieng.</i>
		<i>Boxing.</i>	<i>Abstinence.</i>
		<i>Long sleepe.</i>	<i>Carnal copulation.</i>
		<i>Fluxe of bloud from the</i>	<i>Nose.</i> <i>Termes.</i> <i>Hemorroids.</i>

Euacuations some are	{	<i>Naturall,</i>	<i>Phlebotomy.</i>
		<i>Artificiall,</i>	<i>Purgation.</i>
		common partaking of both.	

What Phlebotomy is and from whence the opening of a vaine doth euacuate. Chap. 3.

FOR so much as the bloud in generall is mixed with the foure Humors which are also bedewed as it were with a thin watry substance, and that they all are so mingled together

gether through the heat and concoction of the Liuer, that neuer an humor can be seene, neuer so little, to be seuered from the other: therefore, I saie, the retentive vertue cannot so strongly hold back the blood in the crooked small veines when a great vaine is opened, and that with a sufficient large wound: but the same will issue and come forth. If by chaunce it happen that the retentive vertue go about greedily to suppress the blood, yet at length it will poure it out plentifully with oft handling & rubbing of the veines. Neither doth this or that humor by it selfe alone come forth, as in purging: but blood generally; that is to saie, mixt with other humors in the veines.

Touching the definition what it is; *Phlebotomia* (which is worde for worde out of the Greeke, the cutting of a veine:) is an artificiall eduction of blood, either abounding in quantitie, or offending in qualitie, by opening of a veine. I call it an artificiall incision, because it must not want art and iudgement: For in it, consideration must be had of the inflicted wound: of the quantitie of the blood: of choosing the aptest vaine: either to pull backe blood, or to euacuate it quites: or to make it onely lesse in quantitie. Also, for that consideration is to be had, whether the veine must be opened streight downe, or
ouer-

ouerthwart, of the same side of the bodie, or of the other: with diuers considerations besides, whereof we will speake in their proper places. Therefore *Phlebotomie* which is one of the greatest remedies, the Philition vseth, is for good cause defined an artificiall kind of educing. *Galen* in his 2. *Apharif. Coment.* 17. defineth it to be an exquisite euacuation of all the humors equally. *Auicen* defineth it *universalis euacuationem, qua multitudinem humorum euacuat* or thus *Vena sectio est vniuersalis euacuatio, qua actionem humorum super equalitatem in uenis exuperantium, euacuat.* i. an vniuersal euacuation which taketh away abundance of humors, replenishing the veines aboue measure.

Though the blood in the veines be in a moderate meane, or but little in quantitie, yet of the proper mouing, & vehemencie of it self it issueth out: nature litle or nothing at all protruding the same. *Phlebotomie* indifferently euacuatieth both good & bad humors contained in the veines with the blood. Neither in diseases proceeding of corrupt constitution of humors, can nature so moderate the matter, as that, that humor alone shal flow forth that aboundeth in quantitie or offendeth in qualitie. I confesse, that in the iudicials of diseases, called *Crisis*, many times nature separateth & as it were, excludeth by wayes conuenient, those

those ill humors prepared before, by concoction: yet notwithstanding, if then at that instant we open a veine, nature cannot, thereby in so short time expel the hurtfull humor.

Whereas *Auicē* saith, *Phlebotomia* euacuateth good blood, the ill remaining behind, & that he feareth, lest opening a veine bring the patient, either to abundance of hot cholerike humors, or cruditie of flegmatike humors: if he mean it of the humors mixt in the veines, it is most fals: for neither doth the watrish humor issue forth before choler, nor choler before flewme, or Melancoly, nor the bad humor before the good. V Which daily experience proueth to be true: for when the blood commeth forth, it appeareth simple & of one forme: but in the porrenger it loseth his colour, & euery part thereof congeleth seuerally in his own region. The watrish humor swimmeth aboue, not farre vnlike vrine. Thinne choler & the flowing part of the congealed blood, is also aboue next the water, Melancoly abideth in the bottom: the red blood & the paler flewme keepe in the middle region. So that opening of a veine euacuateth all humors which are in the veines equally.

V Ve are here to set downe, from what place the evacuation is made: for, inasmuch as blood is moyst and flowing: that first issueth forth which is next the opened veine, then

then that which is next the same: thirdly, commeth forth, not onely that which is in the veines and arteries, but also that which is in the bowels and whole habite of the body. For there is a wonderfull continuation and order of the veines, so that a way being once made, all the blood often times floweth out of the bodie, and bringeth death to the partie. But when the passage is stayed, then the blood is sent forth by the veines & arteries, till there be a certain proportion in the whole bodie: For the emptied and wanting partes by the long small veines draw blood forth of the full partes, & repleated members; and so succor them, as it were in their need. Againe, the full members griued with too much abundance, vnburthen them-selues on the veines that are emptied. Againe, the humor being liquide and flowing voluntarily followeth the lower euacuated regions, and there continueth: whereupon it followeth, that whensoever bloodletting shall empty the veines; the same also shall euacuat the whole bodie. In regard whereof *Phlebotomy* in the definition thereof, is called verie well an vniuersall euacuation, and that for two causes. First, because it withdraweth all humors whereof the blood consisteth. Secondly, because it euacuateth from the whole bodie; but yet not in like sort. Forasmuch as the
partes

partes of mans bodie are placed in their order: therefore first it exhausteth from the neere partes, then from those that are further off. And againe; forasmuch as some veines are spred into some partes of the bodie, and other into other partes: therefore bleeding with more celeritie and force draweth from those partes which are rightly and directly placed, then from those members, which are opposite or ouerthwart.

*Whether Phlebotomie must go before purging,
or contrarie. Chap. 4.*

IN this place it is a necessarie question to be moued, and aunswered; whether bleeding or purging must go first, in this case (which is verie frequent) where they are both requisite. Some will alwaies haue, that when purging is necessarie; bleeding must go before: and they bring out the authorities of *Hippocrates* and *Galen*. Others contrarily affirme that alwaies some extenuating or lessening receit called barbarously *Medicamentum minoratiuum* must be first receiued, and then *Phlebotomie* succede. But of these opinions neither is simply true, and yet both true, as the case may be limited. And for the cases wherein a gentle purgatiue is to proceede *Phlebotomie*: they are in number these sixe.

First,

First, when the stomacke, the *Mesecaica* veines, the great veines, & the waies & passages of the bodie, or any of these be stuffed with filth, or incombred with crudities: or that the excrements are hardened in the bowels, although the whole bodie abound with blood beside, yet a gentle & easie receipt is to be taken, as *Manna*, *Cassia* or a clister (but no violent receipt) which may euacuate from the foresaid veines, & open the obstructed passages. If the blood should first be drawn forth without some gentle purgation or euacuation in the greater veines: then the veines outwardly exhausted by bleeding, through their attractiue vertue, would drawe vnto them ill iuices; specially, if the disease require any plentiful bleeding. This is affirmed by *Anicen* & *Galen. 9. Metho. cap. 5.* who did vse to retrain from *Phlebotomie*, if there were cruditie of meat in the stomake, or rawnes in the veines called *Mesecaica*, til their concoctiō wer ended, & the excrements descended.

Secondly, when the blood is verie viscos, clammy & grosse, we do not only take medicines attenuating, but also lessening things & a dyet conuenient to prepare blood: and to make the mēber bleed the better, vse a bath: for oft it commeth to passe, that a veine being opened, no blood issueth forth, because of the thicknes & clamminesse thereof.

Thirdly,

Thirdly, it faileth out in many cholerike bodies, that choller contained in the vpper parte of the stomacke is easily moued, & so boileth causing *Lipothymia* .i. ouercoming: in which case it behoueth to vse before some Minoratiue receit, & also in bleeding to vse somewhat to keepe backe the boiling of choller.

Fourthly, in diseases wherein appeareth a difficultie by reason of *Cacochymia* or abundance of other humors mixt with the bloud. When a practitioner perceiueth that he must vse *Phlebotomie*, & yet with some difficultie; in this case he may vse some easie purgation, or one of soine force: whereby it may fall out that nature shal thereby so be eased (which the siege & ease of nature wil shew thee) that thou shalt not need bleeding at all, but onely preparation of the matter, & then to renue the educing thereof as before.

Fiftly, remember *Auicenn* saying: *Sanguis frangum cholera existit*: bloud is the restrainer of choller: therefore in diseases mere cholerik, it were a rash part to set bleeding before purging, which perhaps thou maist be without, after the exhibiting of the medicine. And if thou vse the patient wel; let those things suffice, which change or repell the sharpnes of choller. Yet this is to be added, that if there shuld be such abundance of choller as might cause a swelling aboue nature or inflammation; then bleding vpon that, is a present help.

Sixthly, the same reason may serue in flegmatike constitutions. Wherein for many causes (although no small fulnesse appeare) yet we are not to vse *Phlebotomie* before purging.

The cases wherein *Phlebotomie* prececedeth purging are these. First, when great fulnes appeareth, which either hath caused, or is like to cause any vehement disease, as *Apoplexia*, which is a sicknes engendred of grosse humors, filling the receptories or vessels of the braine, and thereby depriuing the partie of feeling, speech, and mouing: as *Peripleumonia*, which is an inflammation or an apostume of the lungs, with a vehement Feuer, comming sometime of it selfe, but most commonly following vpon great and sharpe rewwmes, squinances, pleurifies, or such like diseases: as *Suffocation*; which is in English, strangling: then & in this case without faile, and chietely if the wombe be laxatiue, vse letting of blood without precedent purgation. And this seemeth to agree with *Galen lib. 10. de Composi. medica. secundum locos, ca. 2* Where he saith: if the bodie doe equally abound with humors: first let blood & then purge. And hereunto *Auicen* accordeth in *quarta primi Cap. 4.* This (saith he) is a truth, and the precepts of *Hippocrates in lib. Epidemionium*: that if both bleeding and purging be

be necessaie, and that the purgatiue must be vehement, then Begin with *Phlebotomie*.

Secondly, in dangerous fluxes of blood out of the nose, or in spitting of blood called *Hæmoptoica passio*, or in bluddie fluxes: for to turne the matter away in full bodies, wee presently let blood without medicine going before.

Thirdly, in wraстlers abounding with blood: to whom the same abundance threatneth some great danger, & that it is presupposed that there are no ill humors in the circuite or compas of the bodie; in this case wee vse *Phlebotomie* without purging.

Fourthly, we may safely let blond (without medicine) those that are whole, & for abundance of blood only, are accustomed to yere-ly bleeding; and that haue in the yere taken little or no Phisicke, as it chanceth to many persons in many countries of the North.

Fiftly, we may open without purging, the inner vaine of the arme, in women with child, if they carrie *Corpora Phletorica*, full bodies, & that in the 5. 6. or 7. moneth after the conception: yea & also before they be quicke.

This practise wee are to vse specially, when they being with child, waxe verie slowe, heauie, & as it were, ouerladen with abundance of blood, we may take *Saluatella* veine: or if plenitude so require; the inner veine of the

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arme;

arme: for the quantitie respecting a discrete moderation.

Sixtly, we may let those blood without medicine; that haue fallen from some high place, & taken hurt in the brest and stomacke, in whome is to be feared an inconuenience called of the Greekes *Egchymosis*.

Seuenthly, we speedily let blood such persons, without further Phisick, as by reason of their fulnes through some accident, as feare, or such like, waxe domme; in which case wee let blood abundantly, so that both armes are opened together.

Here I am to note a great error in *Anicen*; both repugnant to trueth it selfe, and also contrarie to *Galen*: For *Anicen* affirmeth, that when colde and thicke humors are in the bodie: first wee must begin with purging, and then open a veine. Diuers and many waies hath he erred in this. First, because in flegmatick humors, grosse and colde mixt with blood, hee woulde haue *Phlebotomie* not vsed before purging. And in this case, by all likelyhood of reason, the cure should begin with bleeding. Secondly, in this hee dissenteth from *Galen*, who 11. *Method. Chap. 4.* though there were obstructions in the bodie of thicke and clammie humors: yet first hee would begin the cure with *Phlebotomie*.

If *Anicenis* meaning be, when flegmaticke humors ouercome the blood in multitude or abundance; that then wee must first vse purging; then is hee greatly deceiued, for as much as hee proponeth a case in which *Phlebotomie* should not auaille, except with those many colde humors there be also some excesse of blood, which chaunceth verie sildome or not at all. But it may seeme that *Anicenis* hath reason, namely this: that the blood being extracted; those humors would waxe more rawe: and so by opening a veine, the patient is brought to a marueilous cruditie of colde humors: This is no reason: for by *Phlebotomy* wee detract blood; not because of obstructions, caused of grosse and colde humors, but because blood superaboundeth. For the stopping is afterward remoued with other helpes.

Therefore, when obstruction concurrith with abundance of blood; wee must not extract verie much blood, but keepe backe some, till the time of the cure, as *Galen* teacheth 11. *Method. Chap. 14.*

And thus much, of the order betweene *Phlebotomie* and Purging: whereby wee see that a strong purgatiue must followe bleeding: and that an easie purgation or clister may go before,

Of the effectes, that is, Of the profits and dis-
profits of opening a veine. Chap. 5.

Schola Salerni, in two verses reckoneth vp
three effects of bleeding :

Exhilerat tristes, iratos placat, amantes

Ne sint amentes, Phlebotomia facit.

It swageth wrath, and cheeres the sad :

Preserues loue-sick, from being mad.

FIRST, it maketh glad those that are pen-
sive. Secondly, it appeaseth such as are
angrie. Anger is especially caused through
mixture of much yellow choler with blood.
And sadnesse, by commixture of much Me-
lancoly with blood. And forasmuch as both
these humors, choler & Melancoly are ex-
hausted with the blood, these two effectes
must consequently follow. Thirdly, it pre-
serueth loue-sicke persons, from madnesse,
by drawing humors from the head to the lo-
wer partes, and so expelling the same.

Although occasion will hereafter better
serue to shewe the causes why wee vse Phle-
botomy : yet here nowe speaking of the ef-
fectes, I will briefly shewe fve causes, for
which wee vse to let blood, and by the which
may be gathered the profitable effectes of
this practise : of the which fve causes; one
onely

onely cause is the direct, the other foure are indirect.

The direct cause of bleeding is euacuation of the blood. But forasmuch as blood is good for nature, therefore *Phlebotomy* must be vsed aduisedly: that the same blood only may be expelled, which is vnprofitable & hurtfull to nature. Blood, as you haue partly heard, is made vnprofitable to nature two waies: either when it doth not thoroughly keepe the proper qualitie that it cannot so nourish as it did before when it was good: or when in quantitie it so increaseth, that it either presseth downe the powers of the bodie, or stuffeth & stoppeth both the veines & the arteries: In these two cases, bleeding is good, as one of the direct euacuating helps. Yet in these cases bleeding is not to be vsed indifferently, but with this difference: in abundance of blood, much may be detracted: In little plentie, small euacuation serueth. Hereupon *Galen* writeth *lib. 9. cap. 10. Method. Si sanguis vitiosus in corpore fuerit, paulatim quod vitiosum est, euacuare oportet, & paulatim ad in vicem quod salubre est, pro eo reponere*. If corrupt blood be in the bodie, wee must by little & little take away the bad; and by litle & litle procure in the place therof, that which is good: which way of curing or amending of corrupt blood, the Physicians call in Greeke

Epicrasis. And to this *Alexander Tralleanus* subscribeth *lib. 9. ca. 2.* The reason why this is not to be done at once, is for that the powers of the bodie would relent & giue ouer, And although that which is euacuated be superfluous: yet by a sudden & thorough mutation, it doth more hurt than good. It is better therefore to emptie the bodie safely, and by little at once, than by making hast, to dispatch both the disease & the partie diseased.

And here it appeareth, how much they abuse *Phlebotomy* which detract the ill blood so long, til the good also begin to come: whereas it may fall out, that all the blood will flowe forth of the bodie, before that the good will appeare. It behoueth therefore the euacuation to be little. And (as *Galen* counelleth in this case) before the opening of a veine, to vse *Epicrasis*, to giue the patient such meat, as may caue good blood; that good blood may still come in place of the bad: and then a little after, more blood may be taken. This therefore is called the direct bleeding, because it is done of it self, to euacuate that which by opening a veine ought in deede to be withdrawn: namely, multitude of humors & of blood, of blood principally; & of humors secondarily: in as much as they are mingled with the blood. The other are called indirect causes: and are vsed only to reuoke or call backe the violent force

force of humors to the contrary part, or to turne the fluxe of them aside another way.

The first indirect cause is, for the greatnes of a disease, or for vehement inflammation of an impostume: for in apostumatios of great heat, in hote feuers, & in vehement griefes, there is not found a more excellent remedie than opening of a veine.

The second indirect cause is, to allure the matter to the place of euacuation. Therefore in stopping of Termes or Hemorrhoids, the veine *Saphena* is to be opened. Fulnes coming by suppression of Termes is to be euacuated by the legges from the knee to the ankle, whether we cut a veine, or vse scarifying, or launcing: for veines opened in the armes of weomen, reuoke & draw vpward their naturall purging.

The third indirect cause is, that the humors may be turned to some other place, contrary or opposite to the place, vnto the which they flow of their own accord. Therefore in immoderat fluxe of Termes, we open the *Basilica* veine, that is the inward veine of the arme, which is also called *Hepatitis*; that the matter being called to a contrarie place, may be turned from his fluxe.

The fourth indirect cause is, that some part of the matter being takē away by bleeding; nature may the more easily ouercome the rest:

For the vertue of the bodie being weaker, then that it can rule such aboundance of humors, wee take away by bleeding some portion of them, least thorough impotencie and debilitie of nature, the same humors should flowe to the weaker members, and there breede apostumations, and swellings contrarie to nature. But of this more shal be spoken at large in the proper place therof, namely in the Chapter of reuulsion and deriuation of plucking backe, and turning aside of the bloud & of humors.

Touching the vtilitie of bleeding: great is the profit therof: For *Galen* reporteth that therewith he hath oft cured feuers: and that it is boldly to be taken in hand when necessitie requireth it, Therefore we may worthily blame those, which in our time, contrarie to *Galens* iudgement, & against reason & al experience, speak euil of this profitable practise,

First, it sharpeneth the sight, making the same more cleare: the reason thereof is, for that it diminisheth those humors which thorough their fumes, hinder the clearnes of the eies: so that consequently the sight thereby is sharpened.

Secondly, it purgeth the braine, & sharpeneth the wit, by the foresaid reason.

Thirdly, it heateth the marrow, waisting those superfluous humors, by whose commixture

mixture & flowing the marrow in the bones waxeth cold.

Fourthly, it purifieth all the senses, taking away those fumes and euaporations, which ascend vp to the head, and there trouble the senses.

Fiftly, it purgeth the bowels and entrailes: The reason is, because nature gouerning the body, being disburdened of that bloud which was (as it were) an oppression to nature, and greued her (as it were) with some heavy burden: doth now with ease concoct and ouercome rawe and rude humors deteined in the bowels.

Sixtly, it stayeth vomits and laskes: for it draweth the humors from the inwarde parts, to the outward parts. VVherevnto *Asicen* agreeth writing thus, *Phlebotomia propterea quod ad diuersum trahit, naturam secundum plurimum retinet*. Phlebotomy, because it draweth to the contrary part, therefore commonly it reteineth nature. In which place it is to be vnderstood that in fluxes of the womb, the veine of the Arme is to be taken, which presently helpeth: But if you doo otherwise, that is, take the veine in the foote, or legge, it profiteth nothing. Sometime it chanceth that the belly by opening of a veine is more flowing than before, and that especially chanceth two waies: first because nature being disbur-

dened

dened by bleeding, strength is increased: so that sometime it stirreth vp other euacuations, as namely by siege. The second way is when through imbecility of the retentive vertue, which imbecility by opening of a veyne is increased, so that the wombe is more stirred and prouoked.

Seauenthy, it profiteth against immoderate watching, for it emptieth abundance of humors, from the which commonly diuers sharpe fumes ascend vp to the head and hinder sleepe.

Eighthy, it taketh away heauines, sluggishnes, & wearines of the body. For, as hath bin already said before, bleeding disburdeneth nature, which ruleth our bodies of multitude of humors; which before was pressed downe by them, & oppressed with them. And again, Melancholly, the chiefest cause of heauines, is expelled with the bloud, as the dregs and grounds thereof.

Ninethly, it cureth difficulty of hearing, abating abundance of humors whose thicke & stauous spirits, carried vpward into the head, stop the hearing port and passage of the eares.

Tenthly, it helpeth the voice, taking away superfluous humidities, which too much moisten the arterie, or veyne of the voyce, and speaking. From which humidities horcenes of speech proceedeth,

Eleuenthy,

Eleuently, it refresheth and increaseth the powers and strength of the body : For the body beeing freed from a multitude of humors, must of necessity haue the vertue and strength thereof augmented. These commodities of bleeding, are thus set downe in verse by *Schola Salerni*.

*Lumina clarificat, sincerat Phlebotomia
Mentes & cerebrum, calidus facit esse medullas:
Viscera purgabit, stomachū, ventremq; coerces:
Puros dat sensus, dat somnum, tædia tollit.
Auditus, vocem, vires producit & anget.*

It cleareth sight, the wits, and braine.
It marrow warmes: doth cleane procure
The entrailes, stomacke: this is plaine:
It stayeth lask, makes senses pure,
It causeth sleepe, expelleth griefe:
To eare, to tongue, it brings reliefe,

To be short, these are the commodities of Artificiall bleeding: therby the organs of the senses are cleansed : weake bodies are made strong, if yeares serue . By it are helped Repletions, Pluresies, hot tertians, frensies, pestilences and diuers other diseases as shall appeare in the Chapter ensuing.

The onely disprofit in bleeding is this, that the vitall spirits thereby are dravven forth

foorth which thing *Galen* witnesseth in his booke *de Scarrificatione*: saying, to open a veine oft in the yeare, I iudge not profitable: for with much bloud the vitall spirits are also exhaled: which beeing done too often, wasteth the whole body, making the same cold, and causing the liuely operations thereof, to waxe worse and worse. To frequent bleeding therefore bringeth on old age apace, and maketh the same subiect to many diseases, as the drop sic, gowt, shakings, palsies, falling sickeneses, and apoplexies. For naturall heate being too much cooled, and the principall moysture diminished: the bowels languish and crudity ruleth with many flegmaticke humors, which are the causes and originall of the foresaid euils. This *Schola Salerni* remembreth: And *Auicen* in primo testifieth the same.

The best remedy to recouer vitall spirites decaied, is drinking of wine: for wine among things nourishing quickly and in short time is the most principall. By meats also vitall spirits are recouered in time, but not so soone. Wherein is to be noted, that after bleeding must be taken meate easie of digestion, of good iuces, and of much nourishment, as potched-eggs, & such like: which meate easie of digestion must be taken moderately the first and second day after bleeding, as *Rhases* counselleth writing
to

to *Almonf. lib. 7. cap. 21.* For the vertue digeffiue, made weake by bleeding cannot ouercome as yet much meate. Herevpon alfo *Isaacus* in his dyets writeth thus: Meate to fuch as haue bled, is to be withdrawen and diminished; but drinke to be augmented, for in refpect of the meat, drink is to be augmented; not in regard of his former vfe of diet: that now he may drinke more than hee was accustomed: for in truth, he muft drinke leffe than hee did before bleeding: becaufe the vertue concoctiue (as ye haue heard) is yet too weak to beare much abundance of drinke. The words of *Schoia Salerni* touching this matter are thefe,

*Spiritus vberiorque exit per Phlebotomiam.
Spiritus ex potu vini max multiplicatur,
Humorumque cibo damnum lente reparatur.*

Abundant fpirite with bloud doth paffe,
yet drinke of wine doth it reftore:
By helpe of meate the fame alaffe,
will hardly come as twas before.

Of *Revulfion* that is pulling backe, and deriuation, that is, turning afide of bloud and Humors by opening of a veine. Chap. 6.

REvulfion is a prouided remedy for bloud flowing out of the nofe or belly,
or

or that floweth to any part like them to
cause inflammation. It is called in the Greek
Antispasis: That is, a turning to the con-
trary way: in Latine *Reuulso*, that is, a pulling
backe; and as the word importeth, so is it de-
fined, a drawing of the running humor into
the contrary part. Nothing can more spee-
dely keepe backe the force of a Fluxe than
this practise. Now for to vnderstand which is
the contrary part; we must note that the Ma-
thematicks call those contraries, which be the
extremities of one and the selfe same straight
line, which stand furthest off in a straight pro-
ceeding or going forth of the selfe same vein;
through whose passages the humors haue
their course. For a veyne beeing opened, first
the part next the wound is euacuated; & that
euacuated part draweth the bloud out of the
further part. And forasmuch as opening of a
veine doth thus euacuate (through the helpe
of the small straight veynes which nature
hath ordained to allure and draw, as shee hath
the ouerthwart veynes to expell:) The same
opening of a veyne (I say) will prouoke more
bloud and in shorter time from those parts
where the streight veynes are spread then
from the rest. Yea, if the veynes drawe not at
all, yet the humors voluntarily will flowe in
the straight course of the veynes: they that
are in the right parts, followe the right mem-
bers:

Bers: and they that are in the left partes follow the left members: and that course of humors is commended, which are carryed straight wise; and that discommended when they are carried crookedly and ouerthwart, as declaring nature to bee violated and corrupted. The names of Phisicall contraries in this practise are these: before, behinde, the right, the left, vpward, downewarde, within, without. Neither are these contraries in reuulsion of humors, except they bee so placed in a straight course of veines. For the left side is not contrary to a left Pluresie; or the left leg, from the knee downewarde, called in Latine *Crus*, contrary to the right leg inflamed. For herein this is a common and direct society of veines, whereby the left leg beeing opened, draweth from the right. But from the right side to the left no veyne commeth with straight and right strings: Therefore a veyne opened in the same remoueth not a Pluresie on the right side: But either leaueth the hurtfull humor in the inflamed part, or minglcth it with the pure blood, or bringeth a Pluresie in the left side: which often falleth out so.

For as much therefore as all our induours and deuises must tende, by opening of a veyne, to exhaust blood abundantly and speedely from the inflamed part:
take

take such a veine as is straitly scituated to the affected part. So in reason we shall followe nature, and imitate *Hippocrates*, who in a Pluresie willed to take the inner veine of the Arme on that side which is grieved. Neither onely doth the Phisition open the inner veine of the right arme in a pluresie on the right side, but also in inflammation of the liuer: and yet all the veins are ioyned to the liuer in fellowship. If that appeare not, we may take *Mediana*: If that neither appeare, we goe to *Vena humeralis*, rather than to the inner veine of the left arme; attributing so much to those veynes which are directly and straightly scytuated. Therefore Revulsion in a streight course bringeth euident and speedy helpe, whereas in a crooked or ouerthwart locution it bringeth none at all.

Moreouer, a large veyne opened, withdraweth bloud plentifully and speedely from the next places. Therefore when there is a great and vehement inflammation of some euill Humor, abundantly concurring in some principall member, and part of great sense and feeling: a large veine must be opened in some neere place vnto it: which may abundantly and speedely euacuate from the place affected. If the infirmity be but small, a lesser veyne may be chosen, and in a place further distant, to euacuate a lesse quantity, and

at more leysure. Revulsion in this sort, not onely stayeth the Fluxe, but also exhausteth first from the affected member the rotten and ill bloud, before it deale with the good bloud of the other parts and members of the body, and then all feare is remooued of any newe Fluxe to insue. For when the part affected shall bee disburdened more than the other, through great euacuation lately made, very hardly in reason, can the same be grieved with another Fluxe of humors, except we go on with a fresh intemperate order of living. And againe, the members far distant (countous as it were) because of their great want: wil not suffer the bloud in them contained, to flow to the others. Neither will the member affected (except there remaine in the same great dolor and heate) allure or sucke any thing from them, being now but weake and consequently not requiring great nourishment.

The opinion therefore of the *Arabians* concerning opening of a veyne must needes be false: V Vho suppose that in a Pluresie a veyne opened on the same side doth increase the force of the Fluxe. Affirming also that for the plenitude (if it be much) lest the Flux should increase, the same is to bee taken from the lower veyne of the foote. After this that the Revulsion must bee made from the

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inner veyne of the contrary arme. Last of all, that the reliques and remainder is to bee euacuated out of the same side. VVhat discretion I pray you is this? so oft to vex the sicke Patient, whom wee may cure at one time: For blood abundantly taken out of the side affected, draweth plenty as it were at the well head, freeing that part from inflammation without suspicion, or feare of any newe Fluxe. Euacuation made from the ouerthwart veynes, onely abateth superfluity of blood and humors, with small quantity of the corrupted blood, and lesse ease to the pained part: Or els the corrupted blood remooued from the affected member, is mingled in the veyns with the good blood, and so the euill that was to be remedied, is made worse. VVhen a veyne is opened in a right and straight course (*edirecto* as they call it) it both euacu- ateth, pulleth the humor backe, and turneth it aside. And as a slowe and continuall running, doth most safely pull backe from the furthest partes, and remooue a fluxe that might possibly insue: So also the blood being turned into a long tract, as it were of a new way, by litle and litle with Reuulsion: it turneth from the old course, without offend- ing the naturall powers any thing at all.

Now that this Reuulsion, or calling backe of flowing humors to the contrary part: may

be practised with the greater profit; I am to giue here aduertisement, that foure conditions are therein to bee respected, as *Avicenna* setteth downe in *quarta primi cap. 1.* First we are to consider the diuersity of the member, and still to draw to the contrary part; as from the right part to the left, from the lower member to the hyer, from before to behinde, &c.

This consideration to bee very needfull, *Hippocrates* proueth by experience: For *5. Aphorif. Apho. 68.* hee writeth that paine in the hinder part of the head, is cured by opening a veyne in the forehead: which *Hippocrates* practised to auert the matter as *Galen* noteth in the Commentary. This auersion or turning to the contrary is done either according to longitude, that is, aboue and belowe: or latitude, that is, from the right to the left, or according to the altitude, that is, before and behind.

The second condition is to haue a care of the fellowship and community of the veyns. therefore in abundant fluxe of termes, wee pull backe, applying the Cupping-glasses to the Paps. Which *Hippocrates* most learnedly witnesseth *5. Aphorif. Aphor. 50.* For there is a kind of Affinite betweene the veynes of the wombe and the veynes of the Paps.

Thirdly, care must be had of the rightnes and straightnes of the veynes, which care being had great profit insueth.

The fourth condition is, to obserue the farnes of the distance. But of these, two conditions especially are to be obserued. That is to say, the fellowship of the veynes, with their rectitude or rightnes: And therefore *Hippocrates* counselleth to open the inner veyne of the same side or arme, and not of the contrary arme. V Which also *Galen* affirmeth, *li. de cura. ratio. sanguinis missione ca. 16.* whatsoever *Auiscen* would otherwise, in *tercia primi*. Therefore they are to be blamed that in a Pluresie of the right side, open a veyne in the left, as *Galen* teacheth, *lib. artis medic. cap. 95.*

There are three waies of auersio or turning away and a side of humors called *Derinatio*. One by repelling things that beat backe the matter, another by things reuelling, which pull the matter cleane away, and draw it forth to the contrary part. And the third way is, by things transmissive, which sende the matter from one member to another. So *Diuersio*, or *Derinatio* is as it were *genus* to *Revulsion*. If therefore (as yee haue heard) there be great inflammation, or a sodaine and hasty Fluxe of humors, open a great veyne of the same side aught, & directo, as these terme it. I say, a

great

great or large veyne because if the euacuation be in the greater vessels, it is done with the more speede: As *Galen* saith, *libri primi artis medic. cap. 95.* And it is saide rightly in the same side, for this is the counsaile of *Galen*, *lib. 13. Metho. cap. 11.* But if the Fluxe of humors be slowe, & not hasty as in the other, or that a veyne must be opened for preservation onely: A veyne further off may bee taken according to the iudgement and discretion of the Phisition, as ye haue partly heard before.

But forasmuch as the Liuer is the Fountaine and originall of all the veynes, and *Phlebotomy* euacuateth blood, it seemeth that blood should neuer be abated, either for Euacuation or Revulsion, vnesse the veyne of the right arme bee taken, which chiefly doth euacuate and pull backe from the fountaine, that is, the Liuer. VVhich also may be prooued by that notable man *Hippocrates* his authority, affirming our whole body to be *Conspirabile*: That is, of one agreement, and of a common and generall accorde together, one member with another, and *Confluxibile*, that is, alwaies running together, and so allied, that each part thereof suffereth with the other.

This beeing so, it seemeth that rectitude is not at all to be regarded in Revulsion. For

what veyne soeuer wee open because of the consent of the whole body with the parts the like profit will insue.

For the Solution hereof we make answer: that as it is now said, it would follow in effect. But that nature a prouident dame hath so placed the midriffe, as it diuideth the stomacke from the lower bowels, and hath separated the right parts from the left: Left one part being hurt, the other part should also sodainely perish. And this is the cause that therefore rather the right with right, than with the left; and the left with the left, rather than the right, doo accord together, and mutually suffer one with the other. And therefore also *Hippocrates* said well. *Sanguinis remulsionem secundum rectitudinem (cata Ixin) fieri debere*. That Revultion of blood must bee done according vnto rectitude. If therefore a veyne be thus opened wee shall soone see the apparant vtility, if wee doo otherwise or the contrary, it profiteth nothing.

This is seene euen by naturall eruptions of blood: For if in swelling of the Spleene, nature expell blood out of the right Nostrill, or in swelling of the Liuer from the left Nostrill, no helpe insueth. But if the bleeding bee according to rectitude called in Greeke *Cata Ixin*, as peniticke persons, out of the
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left Noſthrill : and in diſeaſes of the Liuer out of the right euident profit will appeare. The contrary profiteth not, but oft hurteth, diminishing the ſtrength of the body without helpe to the diſeaſe, as ſaith *Galen de curand. rati. per ſang. miſſio. cap. 15.* VVherefore as it were following nature, in that which ſhee doth well, and thoſe thinges which come voluntarily, and of themſelues, and are yet good and profitable to ſtoppe bleeding at the noſe from the left Noſthrill, wee apply cupping-glaſſes to the left *Hypocondrium* : which is the compaſſe of the ſide neere the breſt and Paps, and if from the right Noſthrill, to the right *Hypocondrium*. The rectitude therefore as an eſpeciall matter is to bee obſerued in Revulſion: yea, and more account is to bee made thereof, than of the differences of the members, neither are the parts of the body to bee iudged contrary each to other, except one bee oppoſite to the other according to rectitude.

An Obiection.

It ſeemeth that *Galen* reſpected not the location of grieued members, according to this rectitude, *lib. 13. Method. cap. 5.* VVhereas the hand being ill affected, he ſcarrified *Cru-ra* the thighs, and one of the thighs ill affected he ſcarrified the other thigh that was well.

The Solution.

Galen in his practise obserued rectitude of members. For there is a common and direct societie of the veines, so that the opening of the left thigh: which draweth blood from the right, for both the thighes receiue blood from the hollowe veyne called *Vena cava*.

Auicenn in 4. primi. 1. deliuereth two rules not to be neglected in Revulsions. First that if in the member, from which wee will pull backe, there bee great paine: the paine must be asswaged, before we make Revulsion. Otherwise, the doiour greatly attracting, and wee also drawing backe with Revulsion, the humors to some other part, there would bee too great a contention, and an excessive moouing of the matter: whereby the body might receiue much hurt.

His second rule is, that when wee pull backe, the passage must not bee thwart any principall member. If any ambiguity arise concerning this rule, because *Hippocrates* is saide before, in each of the hinder part of the head, to open a veyne in the forepart: we answere, that the same passage was not made vpon a principall member, to wit, the braine. VVe also affirme that the passage may be by a veyn of a principall member, though not by
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the substance of the said member: for the fluxedoth not abide, or rest in the braine, as in *termino*, in his bound or limit. Therefore I counsell againe and againe, because manie are killed through the vnskilfulnes of practitioners in this point: at some of whose deaths I haue my selfe beene present. In a pleurisie of the right side, open a veine in the right arme: otherwise, the hart being situate in the middle, betweene the right side and the left: the passage should be vpon a principall member, namely the heart. And hitherto chiefeiy of Revulsion.

Parochetensis in Greeke: *Deriuatio* in Latine: in English, Deriuation, or pulling aside; is defined, a drawing of the flowing humor to the next part. It is done by opening that aine which is found in the verie member affected; and whereby also sometime that member receiued nourishment. But now the ill iuce flowing, and that veine opened, the grieued part is presently disburthened.

This practise is profitably vsed after reuulsion: In the beginning of inflammation, when the matter is now in fluxio & mouing, blood is to be withdrawen from some farre distant place, according to rectitude: after that, euacuation must be made from the affected part, when the matter is come thither. and there settleth and abideth: then detract
blood

bloud, either from the affected part, or verie neere vnto it, and this is called *Parochetensis, deriuatio*. VVee make deriuation from the member affected, when the same is not any noble or principall member: and this is done two wayes: either manifestly and sensibly by scarification or boxing: or immanifestly by euaporation, as *Galen* sheweth, *lib. Artis Med. cap. 95*. But that deduction which is made to the next partes, is most properly called *Deriuatio*. Thus to staye bloud at the mouth, wee bring it to the neere partes, and prouoke bleeding at the nose. So in women in fluxes of Hemorrhoids, wee stay them in prouoking *Menstrua*. i. their naturall Termes. Thus in inflammations of the mouth, wee bring them to the nose. So in *angina*, opening the veines in the handes, and the veines vnder the toung, wee make deriuation to the next place. So in affectes of the guttes, we do not prouoke to stoele, but draw it to the next partes: prouoking either vrine or swet. So in diseases of the raines, wee prouoke not vrine, but drawing the matter to the next members, namely the bowels, wee prouoke to stoele.

But heere ariseth a doubt: howe the raines can be purged by siege, seeing there is no sensible waye or passage knowen, from
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the raines thither.

To aunswere this, wee haue but authorities, as namely of *Galen* and *Hippocra.* *Galen* affirming in his seuenth booke *de Method.* Chap. 13. that the raines, bladder, and bounch of the Liuer called *Gibba Ierinoris* are purged by siege. And experience sheweth, that when the bellie is solluble and laxatiue; the vrine is the lesse. *Hippo.* saying in likemanner 4. *Aphorism.* *Aphorismo ultimo*: That much vrine made by night, sheweth little siege.

You haue heard before, that deriuasion is vsed after revulsion, when the force of the fluxe is stayed, when the heat of the inflammation is layde, when there is no feare or suspicion of any other inflammation likely to ensue: and also when the humor is yet moyst and liquide in the member, from whence it may returne. But if you suppose the humor to be stuffed in the member, and is not able to returne: which often times falleth out in continuall olde inflammations, in which harde apostumated reliques remaine. In this case, when yec open the veine, vse no deriuation but fomentation or bathinges, and emplasters to digest and molletie. Wherewith, if the humor cannot be dissolued, the member not
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being principall; neither any great pain there felt: the affected place may be launced, and the humor brought forth: specially, if the same be contagious, that it infect and hurt the members adiacent: which practise, though properly it cannot be called deriuation, yet it may stand in steede thereof.

Whether purgation by siege or inward medicine receiued, cannot, or may not, euacuate the blond. And thereasons answered that are brought for prooffe thereof. Chap. 7.

IT seemeth, that an inward receipt sufficiently euacuating blood by siege, may be both found, and vsed by *Isaacus*: who in *i. diatetici*, in the Chapter of *Cephalaea passio*, affirmeth: *Quae prosunt Cholerae, prosunt & sanguini*: Those things that are good for choler, are good for blood. But it is knowen that we haue euacuating receipts for choler: therefore by the foresaid authoritie, the same are also good and profitable to euacuate blood. Secondly, there are receites to euacuate other humors, as choler, flewme, and Melancoly: therefore also there are to euacuate blood, which is the principall humor.

Thirdly, *Auicen* in 2. affirmeth: *Pulpa euacuare sanguinem*; that the pulpe of *Coloquintida* euacuateth the blood. Fourthly, *Haly*

Haly supra tegni, affirmeth, that *Galen* caused one to be hanged that gaue a receit to euacuate bloud: therefore there was such a receit then, and may be now. The contrarie to these obiections is set downe by *Galen*, that no receit euacuateth the bloud or humor in the veines, but *Phlebotomy* onely.

A second question here may be moued, whether if there be such a receit found, the same may be administred or not? It seemeth that it may; because when other humors offend, we euacuate them by medicine: therefore it seemeth, wee may so do, when bloud offendeth. The contrarie to this is set downe by *Haly* aforesaid, and warranted by *Galeus* authoritie, who caused one to be hanged for so doing.

For solution hereof, we are to vnderstand, that although a medicine euacuating bloud may be found out, yet the same may not be vsed. The reason is: for that such a medicine specially or rather altogether respecting the bloud, would neither euacuate nor attract bloud, as the other humors are euacuated with their owne proper and peculiar receits. Yea, if it happen that it do euacuate bloud, as *Pulpa Colocynthis* doth, according to *Auicenn*: without doubt, it euacuaterh that bloud which should be still retained for the good health of mans bodie. *Serapio* sayeth, that

that the improprie or improper humor of a receit, is sooner thereby euacuated then the proper humor: whereof he rendreth a reason, namely, that the proper humor to a receit, is the best beloued to the receit. Whereby (saith he) it commeth to passe, that the improper humor is sooner forsaken of nature, than the proper. The humor improper is quickly drawn to the receit, and therby sooner expelled: whereas the humor called proper (which the medicine most properly respecteth) is, as it were, the most beloued friend, and as it were, the most natural childe to the euacuating receit, and therefore is still rather retained than expelled. By this reason of *Serapio*, forasmuch as blood is natures darling, & more helping than the other humors, which are but superfluities in respect of the blood. If there were a receit euacuating & respecting blood, & that the same were administered: the other humors would be attracted & euacuated before the blood, and so great hurt ensue to the bodie. And if it were so that onely blood offended (which is not perhaps altogether true) yet neither should the blood alone be euacuated, as now it hath bin declared. Againe, according to the Philosopher 4. *de Animalibus*, we are to make choice of the right way, and not to seeke crooked wayes. Now opening a veine is the righter & safer way

way to euacuate blood, than medicine : for *Phlebotomy* euacuatieth all humors at once, & principally the blood which most of all aboundeth in the veines: and this thing, medicine cannot do. Againe, euacuation is done for two causes : either for to remooue the abundance of the humor, or to take away the corrupted qualitie of the humor. So euacuation of blood is practised, either because it aboundeth in quantitie, or offendeth in qualitie. If we open a veine because blood aboundeth in quantitie then in like sort there is also abundance of other humors. For abundance of blood cometh through good nutriment, causing *bonū Chymū*. i. good iuce proceeding of meat digested: which doth not only bring repletion of blood, but also of other humors as helpers vnto blood. Therefore when blood thus aboundeth in quantitie with other humors, it is better to euacuat them by *Phlebotomie* than by receit. If euacuation of blood be made for that it corrupteth in the veines, then by reason it corrupteth the other humors also: seeing blood is more abounding in quantitie than are the other humors: wherupon *Galen* saith, that in the feuer *Sinorcha*, there is corruption of all the humors, & in all the veines, & therefore blood is neuer to be euacuated without the other humors together. Now other humors may superfluently abound & be corrup-

corrupted in qualitie, without the blood, and so consequently may be euacuated without blood by inward medicine; so that it is naturall for the other humors in this sort to be euacuated, and vnnaturall so to euacuate blood: which was the cause that *Haly* vpon *Galens* authoritie affirmed, that *Galen* caused one to be hanged, which euacuated blood by inward receipt.

To the former obiections therefore wee answered thus: *Isaac* his saying; *Quod prodest Cholera prodest sanguini*, is to bee vnderstood not of euacuating medicines, but of altering receipts, as thus: those things that are profitable to alter choler, and to extinguish the amitie thereof, they worke the same effect in alteration of the blood. Or wee may vnderstand it of euacuation, and expound it thus: Those things which are profitable to euacuate choler, are profitable to mundefie the blood; because, by euacuation of choler, blood is mundefied and cleansed.

To the second we answered, that this argument (Blood is naught and offendeth as do other humors, therefore it is good to euacuate the same by medicine, as other humors offending are euacuated) this is a fallax of the consequent, or rather *figura dictionis*: for it followeth not, that if blood offend it must be euacuated by inward medicine; because

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the same may better and more safely be done otherwise; namely by *Phlebotomie*: and this may serue for answere to the second doubt before moued in like manner.

To the third may be said, that *Pulpa* being forcible, it greatly debilitateth the member: and therefore, when blood is superfluous, it looseth and euacuateth the same, and letteth the blood contained in the member, to passe away; but it doth not attract the blood: and this is verie pernicious to the bodie of man.

The answere to the fourth, is plaine in the premisses. V Where note, that although it haue bin declared in this Chapter, that blood is not to be euacuated by siege, as other humors are: which fluxe of blood that way, we rather account a disease, than a remedie: as in *Dysenteria* & such like: yet this notwithstanding we do not denie, but medicines may be verie profitably giuen, and receiued to mundifie & to purge the blood.

Of the impediments or lets of Phlebotomy, and of the causes requiring and furthering the same. Chap. 8.

THEre are certeine things which put off bleeding for a while, and other things which altogether hinder & forbid this practise: whereof, the first is indigestion of the
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meat receiued: as when a man hath eaten much ouer-night, and in the morning feeleth himselfe pained therby: feeling still, as it were the sent & sauour of the meat which he hath eaten remaining still in his stomack, whereby the cruditie plainly appeareth. In this case, (except vrgent necessitie otherwise require) wee must forbear bleeding til the digestion be accomplished; that is, til the rawe humors be concoct, & also the excrements descended. The reason why cruditie and rawnes of humors through too much ingorging of meat stayeth bleeding for the time; may be gathered out of *Auicenn. 1. Doctri. 6. cap. 3.* for that there are three things which attract matter vnto them: that is emptines of the place, heat of the members, the habit and state of the whole bodie. If therefore (the bodie thus affected) wee chaunce to open a veine, the bloud vntimely woulde be drawen by the veines: first, part of this cruditie of humors: and the veines being destitute of their proper and conuenient nourishment, would drawe vnto them that which is not as yet concocted in the stomack & Liuer; which vnconcocted matter sent abroad to the other members of the bodie, would not easely be amended. For (as *Galen* saith) the third digestion doth not remedie the faults of the second: nor the second, the euils of the first: Si

magnum

magnum sit peccatum (as he saith) if the euill be great. So that now, if by this meanes the matter be turned into the members ; there must, in the meane season, of necessitie be abundance of excrementes remaining in the bodie, as the occasion of sicknesses: and so at length sicknesses may ensue. Yea, it is far better (as it seemeth to *Galen, lib. de Curand. ratio per sanguinis missionem cap. 6.* altogether to abstaine from bleeding in vntemperat drinkers & gluttonous persons: as from such as cannot be cured either by purging or bleeding. For by their vntemperat life, they gather in short time againe, great abundance of rawe & vnconcocted humors. V Vith such it is not best to deale: for to what purpose is it, to haue the excellent vse of this practise, by these mens intemperancie defaced among the common people, which hath been so present a helpe to diuers? See *Galen. lib. 11: cap. 9. Method. Meden.*

The seconde matter, putting off this practise for a time, are the excrementes of the bellie. Therefore, first exonerate the wombe before bleeding, if it bee not soluble of it selfe, with a Clister of decoction of Mallowes, putting thereto Oyle and Salte, or with a Suppositorie, or with eating a little *Cassia fistula.*

The thirde impediment, is some other

voluntarie euacuation, that may be at that present time: as in fluxe of Termes in women, and in fluxe of the Hemorroids: whereunto *Galen* likewise consenteth, *lib. 9. Cap. 5.* *Method. Meden.* in these words: If (saith he) in time of bleeding, it happen, that the Termes do flowe; or that the veine called *Hemorrhoids* be open, if the force of the same fluxe seeme sufficient, so that it alone may euacuate that which thou requirest: thou shalt leaue the matter wholly to nature: if not, then thou maist detract so much blood, till by both wayes, that be brought to passe, which thou wouldest haue done. But this is not alwayes to be followed: for in euacuation to turne away the matter, as in immoderate fluxe of Termes, or in the fluxe of the Hemorroides wee practise bleeding, as was afore shewed in the Chapter of Reuulsion.

Againe, concerning these voluntarie eruptions of blood, when wee intend to open a veine, if the eruption haue been much, then stay from further euacuation. But if it little or nothing haue withdrawen the matter of the disease, it debarreth vs not of further bleeding. Therefore, if the disease and present necessitie require it, & that the powers of nature haue not beene dammified by that voluntarie eruption, wee may speedily open a veine, as in a strong plurisie. If there haue

haue been much sweating, vomiting or great
sieges, we are not to let bloud: but if these
flake, and that the naturall powers are a little
in time recreated, then wee may verie safely
bleede. For those being but accidents, & not
remouing the cause of the disease, can not
serue in steed of bleeding. So in a hote agew,
if the wombe be laxatiue, and that there
happen *Lienteria* (which is a fluxe of the
stomacke, when the meate and drinke run-
neth from a man, as he tooke it, vtterly with-
out concoction or alteration, rising of great
weakenes of the stomacke, specially in the
power retentive, which is not able to keepe
the meate till nature in ful time may concoct
it, through immoderate drinking of colde
water: from which, some cannot refraine in
hote feuers: This (I say) doth not hinder
bleeding, but because thereby natures
strength is enfeebled, the same considered,
the bleeding must be the lesse, if voluntarie
eruption of bloud remoue the matter of the
disease, or in some reason bring ease to the
patient; according to discretion, commit the
matter to nature alone. If not, take away
some bloud, that through natures worke and
the Phisitions practise together, the cure may
be accomplished. Those things which nature
of her selfe can finish, meddle not withall; but
helpe her with Art, in that which shee be-

ginneth, and cannot of her selfe make an end: therefore I said, in a Plurisie, In a continual feuer, if blood abundantly flow frō the bellie, hemorrhoids, or nose: so that the quantie of the euacuation be iust, and the patient thereby eased, let no further blood. If blood come but finally from the foresaide, and that the sicknesse still continue vehement: that which wanteth is to be done by opening a veine: yea, although the patient be a woman in child-bed: yea, & therefore sometime in a bloudie fluxe, a purgation is giuen, that the same which commeth forth but softly and slowly, by reason of the vnprepared passages; may flowe more abundantly by a more conuenient course.

The fourth impediment, is the age of the partie that is to bleed, either being too old or too yong. Old folk are not to be let blood, because there is in them little good blood, and much ill blood: bleeding from them taketh away the good, and leaueth the bad behinde. Olde men after 70 yeares are not to be let blood, except they be of a strong constitutiō of body, & that the vehemency of the disease require the same. But if in these yeres, the powers of the bodie be weake, & that blood aboundeth not: bleeding is not to be in them practised: for as *Galen* saith, in men of these yeres, there is little good blood; but of rawe humors

humors great plentie : so that opening of a veine, sendeth forth the good; but the ill blod gathered together in the chiefe veines, in the Liuer, & that part called *Mesenterion*, which is the double skin that fasteneth the bowels to the backe: or rather, the branches of the veine called *Porta*, which conuey the iuce of the meat concocted from the stomake to the Liuer, it draweth forth into the whole bodie. Consider therefore, the strength of the body, the vehemencie of the disease: for not onely the number of yeres, but the constitutiō also of the body is to be marked. There are of 60 yeres that are not to bleed, being weake old men. The age fit for bleeding is *at as florens*, that is: after some, the 17 yeare of age: after some 9, after some 10, after others 14. or 13.

Before the 13 yeare, after the most approved writers of our time, wee are not to let blood, except those youthes haue broad veines: be of sanguine complexion, and that the disease be dangerous & require this practise necessarily. In these cases wee may open a veine, if the veines well appeare: or we may diminish blood, by scarifying the legges or armes. *Schola Salerni* sayeth:
Denus septennis vix Phlebotomon petit annus.

The seuenteenth yere of age scarce good:
 To put in prooffe letting of blood.

Children then before they come to 13, or 14. yeares, are not to bleed, except some great dangerous disease of necessity require it at nine or tenne yeares: the reason is, because their flesh and skinne is yet but tender, and easie to breath thorow, as Galen witnesseth *lib. 9. cap. 17. Method. Medendi*, in these words: *Puerorū substantia omnīū facile digeritur ac dissipatur, propterea quod est omnium humidissima, est omnium minime frigida.* The substance or flesh of children, is most easie of all resolued or separated, because it is most moyst, and lesse cold than other fleshie substances. It needeth therefore no euacuation, hauing naturally of it selfe, how to be purged, *calore extraneo* by a forrein, outward and strange kinde of heate. And againe Galen sayeth, *lib. 11. of the same worke Cap. 14* speaking of Synochus a kinde of feuer: *Si in puerum incidat, qui 14. annum non hactenus attigit, mitti illi sanguis non debet, propterea quod tantillis, cum praesertim calidi ac humidi sint, plurimum corporis substantiae quotidie defluat ac digeratur: ita quod ex incidenda vena, moliendum nobis fuerat, id ultro nobis ex curati corporis natura praestatur.* I. If this feuer happen to a childe yet not 14 yeares of age; he is not to be let bloud, because such yong ones, being of a hote and moyst constitution, haue much of their bodily substance daily dissolued.

ued. So that the same which we goe about to bring to passe by opening a veyne, is done already to our hands by the constitution of the Patient. Of this impediment, namely, the age, beside old men and boyes, are also meant decrepits, and very Infants. *Anicen* remembreth in *quarta primi, cap. 20.* this matter writing almost in this manner: Thou oughtest to beware of opening a veyne in a complexion too colde, in a Country too colde, in time of extreme paine in a member, after resolute bathinges, after carnall copulation, in young age vnder fourteene, and in olde age, except thou haue great confidence in the solidity of the Muscles, in the largenes and fulnes of the veynes, and rednes of the colour: such either young or olde, boldly may be let bloud. Yet those that are young of fourteene yeare olde, must bleede orderly by little and little at once, and at each time more than before: and all this did *Anicen* take out of *Galen*. So that although in *Phlebotomy* wee are chiefly to consider these three thinges, that is to say, the danger of the disease, the age and naturall strength of the party: yet the age is sometime not wayed when the strength of nature serueth, either in old or yong. Wherefore *Galen lib. de curand. ratione per sanguinis missionem cap. 13.* willeth to let bloud young sanguine children, and olde sanguine men, without

without consideration of age, if the disease be vehement and dangerous, if the body be sufficiently strong, and that there also be vehemency of the Pulses. In these cases *Necessitas non habet legem*; Necessity hath no Lawe. So in Spaine they let children blood of three yeares olde and lesse, and *Auenazar* writeth, that hee let his sonne blood at three yeares of age, and so preserved him from death, *lib. septi. cap. tertio Collecta*. These limits of yeares in this point *Hippocrates* did not set downe. *Galen* appointed them from fourteene, to seauentie.

Moued by the foresaide reasons; *Rhases*, in olde decrepite age, nothing at all fearing the danger of exhausting the naturall heate, that remaineth in the body with the blood, (whereof notwithstanding often proceedeth the hazarde of life by vndiscrete bleeding) by opening a veyne in decrepite persons, did then helpe, and did great good in grieuous Pluresies and Perypleumonias. And concerning young foike, this wee find true by experience, that in the fifth or sixth yeares of their age, by opening a veyne, Pluresies, inward inflammations, and other grieuous diseases are cured.

Yea, wee see by the very course of Nature, that Children and sucking Infantes, oft plentifully bleede at the nose without any hurt

hurt of body, or any diminishing of their naturall strength.

The age of Childhood hath naturally her strength and bodely forces; why therefore may we not euacuate bloud: according to the proportion of the same? Especially, when the childe is plentifully fedde, hauing also large veynes, and is filled with good concocted bloud. Againe, if it bee graunted that the forces of nature are impaired by bleeding: whether is it better for the childe to perish through plenitude and abundance of humors? or to free him of his disease by abating that abundance, though the strength of nature be thereby a litle hindered? Therefore sometime the necessity of bleeding is great, euen in children; as in Pluresies, inward inflammations, and continuall feuers. There is therefore no age in my poore iudgement, but may abide some measure of Euacuation by bleeding if the child bee past fourteene yeares of age: Yet consideration is to be had of what constitution hee is, whether his bodely substance be fat or leane, thicke or thin, grosse or slender, hard or soft, of much bloud or of litle: In the first we may proceed to open a veyne, in the other not: and here we most carefully remember, that in children because of their hot & moist temperature, lesse bloud must be taken, than the plenitude seemeth to require.

The fifth impediment is an ill disposition of the stomack incident to some men, more than other some, in whom chollerick humors flow to the mouth of their stomacks, and maketh them apt to chollericke vomits, although before they haue neither accustomed, nor had any desire to vomit. In these men, bleeding is to bee forborne, because thereby the troubled humors flow to the mouth of the stomacke as to the accustomed place, and because the stomacke cannot resist so great a Flux of humors, being partly weake of it self, and more weakened through their conuining. Hereof diuers great discommodities growe to the body, yea this is the very cause, that some fall downe and faint in bleeding. For the chollericke humors flowing to the stomacke, bite and nip the same, and so *per Sympathia* through a certaine kind of compassion that is betwene the stomacke, the heart, and the braine: it causeth *Syncope*, that is, swooning. VVherefore *Galen lib. 12. Method. cap. 3.* Durst neither purge, nor let those bloud, which haue the mouth of their stomacke very sensible, tender, weake and abounding with bitter choler: and which persons also abounding with the same when they bleed, in the very beginning, long afore full euacuation bee made, oft fall downe and faint: by reason of the foresaide choler; and crudity of humors.

humors. And this is also the counsaile of *Galen lib. de curand. ratio, per sanguin. missio. cap. 1.* and of *Auicē in quarta primi cap. 20.* Ye may perceiue the mouth of the stomacke to bee very sensible, (saith *Auicē*) when yee cannot swallowe downe sharpe and bitter thinges without hurt. VWeakenes of the stomacke is knowen, by losse of Appetite to meate and drinke. Abundance of bitter choler is shewed, by bitternes of the mouth, by subuersion of the stomacke long time continuing, and by oft vomiting vp of choler. These signes and tokens discried in any patient, doo dehort from opening a veyne: Yea, this ill disposition of the stomacke: bringeth not onely *Syncope*, but also sometime present death. As *Galen* witnesseth *lib. 9. cap. 5. Meden.* And *Auicē* in the former cited place.

The sixt, is weakenes of the natural forces: Of which there is a threefold condition, for they are either firme, or weake, or betwene both. The forces of nature being but weake they cannot indure *Phlebotomy*, so forcible an euacuation. As *Galen 2. Aphorismo. Aphorism. incipientis. In quo morbo, &c. & 4. Simplicis medecina* witnesseth. This is one of the principall considerations that are to bee regarded in opening a veyne, for either wee must dehort from it, if natures forces serue not, or encourage to proceede it, if they will serue vnto

it. For it standeth with great reason, that bleeding must greatly infeeble, and put them in danger, that are already weake of nature. Yea it oft falleth out, that diuers being let blood, carrying very weake bodies; can neuer again recouer their former and pristinate strength, as *Galen lib. de curand. ratio per sang. missio. ca. 6. & li. 11. Method. meden. cap. 14.* witnesseth. If the body bee strong, and that vrgent necessity so require, wee may boldly let blood. If necessity doo not vrge, bleede not at all, or very litle. If vpon great necessity in this case much blood must bee taken, the body being feeble and not able to abide it, we are to euacuate now a litle and then a litle. Yea, I giue heere againe aduise, especially to regarde this consideration. For many times when the age, disease, and time require this kind of euacuation, and the naturall strength cannot brooke it, there insueth *Sincope*, that is, fowning: In the which case we must reiterate bleeding, as hath beene said, or else stay it, putting the finger on the wound; which stay the Grecians vsed, and called *Apphasis*.

The seauenth stay or let is, the habite and constitution of the body, wherein wee are to regard the whitenes or blackenes, leannes or fatnes, thicknes or thinnes, of the bodies that are to bleede. Thinne, white, leane and soft bodies are not to bleede; because many

superfluities are resolved from such bodies, which being to them sufficient, they need not any other euacuation. This doth *Cjalen* affirm *lib.9. Metho. Medend.* fleshy bodies, firme, and thicke, are subiect nothing so much to dissipation of superfluities, & therefore may better abide bleeding: as for fatte and grosse bodies, though they be also lesse subiect to wasting & dissipation of humors than other are; yet they hardly tollerat *Phlebotomy*, because they haue but small veynes, and they being emptied by bleeding, the fat of the body wringeth, and as it were presseth them down. So that it is greatly to bee feared, lest by such oppression, the heat of nature be quite extinguished. In this point of the habit of the body, we are also to consider, the capablenes of the veyns, which being great & swollen, may better be opened than the narrow and small litle veyns. Again, we are also here to regard, the naturall disposition of the humors. For hot and thin humors are flowing and quickly dispersed. Thicke and cold humors are not so: and because grosse & thicke fat bodies, haue lesser veynes, & lesser bloud than leane men, & that in such persons, the very fat of their bodies oft presseth down the veyns: so suffocating and choking naturall heate: therefore wee see by experience, that oftentimes these corpulent fat men die afo-
daine death.

V Where-

VVherevpon also *Hippocrates*, 2. *Aphorif. Aphorif. 44.* supposed that grosse men die sooner; and more sodainly than leane persons. This I my selfe obserued, certaine yeares past, by the death of a Gentleman of good credite, in this shiere of Kent, one Maister *Weldon* Esquiere, and of the Greencloth: VVho died very sodainely beeing a very fat Gentleman at a parish called great Pecham.

The eighth impediment is, the colde temperature of the Patient, or the coldnes of the complexion. For the bodily constitution beeing already colde, by bleeding, of force must be made more cold, VVhereby frigiditie of the body dayly increaseth. And as *Isaac* saith in *Urinis*. *Sanguis est fundamentum caloris naturalis, in quo calor naturalis confortatur.* Bloud is the foundation of naturall heate, whereby naturall heate is strengthened. Therefore *Phlebotomy* (euacuating bloud) diminisheth the naturall heate, and consequently bringeth a dangerous coldnes to the whole body. The foundation of inward warmth (namely bloud) being diminished, inwarde heate decayeth, and the body still by little and little waxeth more colde. And this is testified by *Galen*, *lib. de curanda ratio per sanguin. missio. cap. 6.* Yet when the sicke is of a melancholy constitution, and is grieued with much Repletion, or that Melancholy

lancholly hath much bloud mixt with it: in this case hee may bleede. And againe, a hot and a moist constitution of body, hauing also the bodily substance consisting of sound, whole, and massie members: which by reason of inwarde heate is daily much dissolued; tollerateth not so plentifull euacuation, as other complexions. V Where by the way yee are to note that in Phisicke, that body which aboundeth with much humors in the veynes, is most properly called *Corpus humidum*, and may best of all away with euacuation by bleeding.

The ninth is rawnes, slownes, and clammines of the humors: In which case wee are to forbear bleeding. For otherwise crudity of humors will bee increased. After *Galen* 1 2. *Method. Medend. cap. 2.* And this is the cause, why in long continuing maladies bleeding is not vsed according to *Auicenn*: for if it were, there woulde followe Crudity of Humors; Debility of Naturall vertue; Prolongation of the disease, with feare neuer to bee cured.

And therefore againe, as the same *Auicenn* saith further, in diseases daily and continuall, called *Morte Chronici*; Purgation must goe before bleeding, and not bleeding first: although we are to vse them both. V Whereof looke before. *Chap. 4.*

Of crudity of humors there are two special causes, the first is the excessive multitude of humors in the body, chokking the inward naturall heate, by reason of whole weakenes, and suffocation, nature not being able to overcome those humors, crudities must needs insue in the body. But in this case *Phlebotomy* may be vsed. And *Galen lib. 2. cap. de Hydropesi* saith, that bleeding he peth in the beginning of a dropsie, which is caused through abundance of menstruous blood, or of abundance of hemorrhoids. The reason is, for that although these humors abounde in the body: yet bleeding stayeth the fluxe of them both: of that that is of the menstruous bloude, and also of the Hemorrhoids. This also *Trallianus* affirmeth, *lib. 9. cap. 2.* In the cure of *Anasarca*: which is a kinde of dropsie, in these words, *Omnium curatio a vacuatione incipienda est, sed Ascitis quidem dicti, aut Timpanie a sola purgatione, cui autem Anasarca nomen est, ea vena sectionem interdum requirit, ut qui ex sanguine frigido nascitur.* The cure of all dropsies must begin at euacuation. But that kinde of dropsie called *Ascitis* or a Timpany, must beginne at purging onely. That dropsie (called *Anasarca*) sometime requireth opening of a veyne, as proceeding of colde blood.

This he saith, not that this *Anasarca* requireth

seth any further coldnes to be added, but because the withdrawing of abundance of humors in this case, disburdeneth nature, and maketh her the more able to overcome the same Repletion, being somewhat lessened in quantity by bleeding. It is not therefore repugnant, but very agreeable to reason, in this case, to vse *Phlebotomy*. For we see by daily experience, that a small fire is put out by laying on too much wood at once, or such wood as is greene, and that then it burneth when the woode is remooued which hindered the burning thereof. Euen so is inward heate of the bodie choaked with multitude of humors, and the same is againe refreshed, when some portion of them is withdrawn.

The second cause of crudity of humors, is the debility of the inward naturall heate, which happeneth in men of colde Complexions, in men that haue beene long sicke and in olde folke: in these bleeding is not vsed, because bloud being taken away from them, which is the restorer and maintainer of the inwarde naturall heate (as yee heard before out of *Isaacs*) consequently the body must waxe colde, and crudity of humors increase. Bloud therefore must remain in these persons, to concoct and overcome the humors in the body.

And therefore very well saith *Anicen*, *Non quotiescunq; videris signa Repletionis, est faciēda Phlebotomia*: That is, Phlebotomy is not alwaies presently to bee practised, whensoever wee see signes of Repletion, as namely, when there is tulnes of raw humors in the body, and this doth *Galen* also affirme, *lib. 12. Method. Medend.*

The tenth impediment is the vnfit disposition of the Aire, when the same is too hot, too cold, too dry, or too moist. Also when the same is not cleare, but troubled. And therefore vnder the starre called *Canis*, in the canicular or dogge daies, when there is excessive heate and drith, it is good to refraine bleeding: Except great necessity doo vige it. So likewise in seasons too moist and too colde, as in the winter in a state of the Aire temperately hot, as when the wind is south, or southeast, wee may bleede temperately and sparingly.

In a more cold state of the Aire, as when the North-winde bloweth, or North-west winde, wee must bleede more sparingly than before. In a right temperate and mild state of the heauens, we may bleed plentifully; especially the Aire not being greatly disquieted, with great force of tempestuous weather.

And here may be made a profitable collation in this practise: by folding vp together

as it were in one: three impediments here specified. The state of the Country being co lde, the time of the yere beeing cold, the present constitution of the Aire beeing colde. All which three are outward causes, and ioyned in this third point: which is common to them all three: that is, the Country, the Aire, and season of the yeare, compasse about euery Patient. Therefore in a cold Country, and in winter, and when the Northwind bloweth; open no veyne. If in a colde Country and in winter the wind blow South, and that so necessity require, wee may proceede with this practise; so in a hot Country, and in summer, the winde blowing at the South: bleede not. If necessity in summer require bleeding, open a veyne when the North-wind tempereth the immoderate heate of the season. For surely these outward causes, though obscurely, and without any great perceiuing, yet they doo either keepe in, or disperse abroad and extenuate, the substance both of inward heat and also of the inwarde humors. And as in a temperature or complexion hot and moist, *Phlebotomy* is vsed best: and not to be vsed in complexions hot & dry, or complexions cold and dry. So when the season is hot and moist, as in the spring we may bleed safely. But not so, in a season hot and dry, as is the summer, or very cold, as is the winter.

The eleuenth let is some great inflammation, or extreme ach and paine, as appeareth by *Galen* and *Auicenn*, who both forbid bleeding in hot inflamed feuers, and in apostumations of great paine. In these cases the opening of a veyne doth cause much busines, and agitation of humors in the body. Bleeding on the one side, drawing and emptying humors: the inflammation and ach on the other side, struing there against, and attracting humors thither. For all paine, if it be much and ail heat, which concurreth with paine, attracteth and hindereth the fluxe of humors. V Whereby it commeth to passe, that by bleeding in this case, the inflammation is thereby increased, and nature more infeeble, and the same most chiefly when the bleeding hath beene temperate, and done according to Art. But in the foresaid cases: if the blood be withdrawn in great quantity, euen till the Patient giue ouer and faint: it profiteth very much for, thereby the abundance of boyling blood in great inflammations is expelled, and the inflamed member is cooled: so that in vehement paines, opening a veyne is a present helpe: keeping backe the fluxe of blood, which otherwile would haue recourse to the pained place. And here it is not to be forgotten, that sometime the expulsive vertue, making hast to expell the cause of the griefe, causeth

causeth thereby sometime an inflammation.

The reason is, for that the expulsive vertue, hauing done no good at the first, indeuoureth more vehemently than before, to expell that matter which causeth annoyance, and doth therewithall wring out forcibly some bloud out of the vpper partes or members, into the lower afflicted part: as Galen sheweth at large *lib. 23. cap. 3. Method. Medend.* And therefore to keepe backe the saide inflammation, bleeding greatly profiteth as yee haue heard before *Cap. 6.* And this is the intent and meaning of Galen, where he saith: *In ardentissimis febribus, si usque ad animi defectionem, sanguis mittatur, statim totius corporis habitus refrigeratur, & febris extinguitur.* In extreame hot feuers, if we bleede euen to giuing ouer and fowning: presently the state of the whole body is cooled, and so the feuer is extinguished.

In vehement paines and griefes therefore, there is no better remedy founde, than to let bloud, euen till the Patient ouercome. Reade more hereof in Galen, *lib. 9. Method. Med. cap. 4. lib. de curand. Rati. per sang. Missionem, capit. undecim. Fuchlium, libr. secund. sectione. quint. cap. quart. & sext. institutionum Medic.*

The twelfth impediment is the extreame

coldnes of the Region, a Country which being cold cannot tollerate so large an Euacuation, as is this kind that wee nowe presently handle. The reason is, for that the body being before sufficiently cooled, through the colde temperament of the place, must needes waxe more cold, when the naturall heate is drawen forth with the blood. Moreouer a country too hot, cannot admit this practise, because in such a place extremity of heate draweth from the body much inward heat of nature, dissoluing of it selfe, and dispersing the naturall forces and humors of the body, and therefore in hot Countries, the naturall powers are lessened: & there is lesse blood in the veyns, which is the reason that also in extreame hot countries, the bleeding must be none at all, or very little. A country somewhat colder and moister than this nowe specified, keepeth in the humors and inward heate: dissoluing very little thereof. Therefore men in such countries, may bleede more abundantly. The contrary to this hapneth in extreme cold countries, situated far Northward. For the blood congeled through extreme colde, will not giue place to euacuation. And again, if the inward members should be deprived of their natural & inward heate; they were greatly in danger to perish with extremity of outward cold. Look more of this before in the tenth impediment.

The

The thirteenth hinderance, is the time or season of the yeare, which is a matter also in letting bloud to be considered: as namely, whether it be too hote a season, as in Sommer: or too colde a season, as in Winter: specially when it is frost and snowe. For to what purpose is it, when the bodie is already sufficiently cooled, through the colde season of the yeare, to make it more colde by bleeding. And for hote seasons, if the heat be extreme: those that bleede in them, oftentimes die by swooning or fainting called *Syncope*, or *resolutio*: for extreme heat enuironing the patient, doth overcome the vital spirites, which come forth with the bloud; drying & weakening the state of the whole bodie.

Therefore in seasons extremely hote, it is a point of wisdom to forbear bleeding: which thing *Galen* teacheth, *lib. 11, cap. 4*.

Method. Medend. in these wordes: *Et omnino quidem non mittes in tempore aestatis. & regione aestuosa, & cali statu calido & secco.*

Thou shalt not at all let bloud in Sommer time, in an hote countrey, and in an hote and drie state of the aire: as vnder the dog-starre, and from mid Iuly to mid September; or rather to mid August. By *Galen's* wordes wee may perceiue, that there is the like reason of the countrey, and of the time of the yere concerning the heat and coldnes of them both.

But

But to put practitioners in minde, that these rules are not alwayes precisely to be obserued: I giue aduertisement still, as I haue done in other the like cases before; that in this circumstance of the extreme colde, or the extreme heat: either of the time, or of the countrey: that it doeth not quite exclude bleeding at all time, euen in cases of meere necessitie: but onely thus farre; that these cannot admit so large euacuation by bleeding, as their contraries may. The Spring therefore (beeing the most temperate time of the yeare, when the forces naturall, & humors them-selues most abound) is the best time to open a veine, to auoide future maladies. The next conuenient season is Autumne or Haruest. And of the Spring, the beginning thereof to be best, Hippo setteth downe 7. *Aphorism. Aphorif. 54.* But hereof looke more hereafter in his proper place, and before in the tenth impediment.

The fourteenth let of *Phlebotomy*, is former bathings or hote washings: especially resolutiue bathes: VVhich as *Galen* witnesseth in his booke of the Vilitie of respiration Cap. 7. do so forcible euacuate the spirites from the whole bodie, that it stayeth opening a veine. And againe *Hippocra.* writeth in his second booke *Aphorif. 51.* That it

is verie perillous, much and vpon the sudden presently one after another, by diuers euacuations, to emptie the bodie.

The fifteenth, is a disposition to vomit: of what cause so euer the same proceedeth. For in this cause of lothsomnes of stomach, it we let bloud, the veines by bleeding exhausted do soone drawe vnto them that wicked and lothsome matter, which lyeth in & about the stomacke: whereof looke more in the fifth impediment.

The sixteenth impediment, may be custome, or a former order of life: wherein wee are to consider, to what meates wee haue beene most accustomed: what excrementes are still reteined in the bodye, contrarie to former wont. For too much former repletion of the bodie with meate and drinke hindreth bleeding, as appeareth in the first impediment. But if there haue beene before a moderate meane obserued in eating and drinking, wherewith the bodie hath bene safely nourished: then we may boldly bleed. If it be otherwise; then forbear. Yea, from this point also is take a sure note of the quantity of blod that must be extracted. For those that haue bin accustomed to be let blod, may bleed more in quantitie than they that haue not bin accustomed to bleed. In this impediment, moreouer, consideratiō must be had, whether

whether Hemorrhoids or Termes, are restrained, contrarie to former custome. Or whether wee still vse our accustomed exercises or no. But although diuers matters herein are to be regarded: yet in custome principally, these three are to be marked: The precedent order of dyet: the kinde of life, that we haue spent before: and former euacuations. Those that haue liued sparingly, either by their owne ordinarie prescription, or by occasion of sicknes; are to bleede lesse. Those that haue liued more frankly, may bleede more plentifully. He that hath been already let blood, so that the natural powers be not thereby too much enfeebled, may, as I now said, better abide to bleed, than they that neuer were let blood. For this is a general rule: Things accustomed, yea, if they be euill things, are the lesse grievous, whereby is confuted the opinion of the vulgar sort: who greatly commend the first opening of a veine, as a matter greatly healthfull: and discommend all the other bleedings, making their reconing of this in their most extremities: that though they were neuer let blood before: yet now they will send for the Phlebotomer, as their last refuge.

The seuenteenth impediment is, carnall copulation: presently after which, the opening of a veine is also forbidden, because

Venus

Venus so lately embraced, hath thrown down
and weakened the powers of the bodie, and
warmed the same more than was conuenient.
How the powers of mans bodie are loosened
& enfeebled through venerious actes: *Galen*
most excellently declareth, *lib. 1. de Semine.*
cap. 25. saying: In the time of carnall copu-
lation, the stones or genitors, drawe forth of
the veines all such seedie humor as is contei-
ned in them; which is not much in quantitie:
and that which is the same, is admixed with
the bloud in the likenes of dewe: and this to
do, is the office of the Testicles. So that first
by the genitors hauing more strength than
the veines; the seedie moysture is violently
drawen from them: And againe, the veines
drawe the same from the members next vn-
to them: These partes againe exhaust from
those next vnto them in like sort: so that this
extraction ceaseth not, till it haue gone tho-
row euery part or member of mans body: by
reason whereof, all the bodily partes are de-
priued of their proper nourishment: and al-
ways that part which is perfectly & thorough-
ly euacuated, violently taketh from that
which is next adiacent, and hath more plentie
of seedie moysture to be extracted. This (I
say) being done alwayes, and all partes mu-
tually participating among themselues: ne-
cessarily all the receptories, and partes of the
whole

whole bodie must be euacuated, till the strongest of all the partes be filled. And further, it commeth to passe, not onely that the seedie moysture is drawn from the partes of the bodie through carnall copulation; but also the vitall spirites passe out of the arteries with the same. And therefore it is no maruile, if such as vse lecherie immoderately, become weake, both these being taken from the bodie, that is to saye, the seedie moysture, and the vitall spirite. VVhereunto may be added the pleasure of *Venus*, which of it selfe, is able to vnloose the vitall firmitie of the bodie. Yea, it is knowen that some haue dyed of too much pleasure in the act. *Marsilius Ficinus* in his booke *de Sanitate tuenda. Cap. 7.* confirmeth in these words, a'l that hath been hitherto said. *Venus* (saith he) if it do but little exceede the powers naturall of the bodie, presently it exhausteth the spirites, and specially those that are most subtile. Also, it enfeebleth the braine, weakeneth the stomack and hart-strings: yea, there cannot be a more hurtfull thing to the witt and memorie. VVhy did *Hippo.* iudge *Coitum* to be like the falling sicknesse: but because it woundeth the minde, which is diuine and heauenly. The immoderate vse of lust is so hurtfull, that as *Anicen* sayeth in his boode *de Animalibus*: If but a little seede

feede issue forth more than nature can afford; it offendeth more, than if fourtietimes so much bloud had proceeded. And therefore, not without some good grounde, did the auncient writers imagine the nine Muses, and *Minerva* her selfe to be virgins. Read more hereof in *Galen*, Chap. 86. *Artis Medicinae*. *Pauli Aegnetae*, lib. 1. Chap. 35. In *Asius* lib. 3. Chap. 8.

The seuenteenth impediment, is long continuance of a disease, wherewith the strength of the bodie being wearied, a long tract of time, the same cannot now tolerate bleeding. And forasmuch as now the bodie is more than enough enfeebled & brought lowe, thorough a long continuing and languishing sicknesse: by bleeding wee maye more easily quite extinguish the patient, than remedie the disease. *Galen*, de *Cura* et *ratio per sanguinis missio*. Chap. 20: And *Alicen* confirme the same, giuing aduise to forbear opening of a veine in bodies which haue endured long griefes, except corruption of bloud moue vnto it. In which case sometime bloud may be detracted from persons that haue continued sicke of long time. And *Fuchsius* counelleth saying: People in consumption: olde folke: women with childe: & yong children, are not lightly to bleed.

The

The nineteenth impediment, is small quantitie of humors being in the bodie: for a good consideration is to be had, how the humors offend in the bodie in quantitie or in qualitie: VWhether there be many or fewe humors in the patient. And therefore sometime vpon this ground, wee open a veine in weomen with child, if there be abundance of blood, sufficient both for the mother and the infant in the wombe, if the bodily strength be firme, and that the greatnes of the disease in them so require it. But hereof more at large I meane to write in another place. And againe, beside the quantitie: the diuersitie of nature in humors is also a profitable consideration in this practise. For euen according to the varietie of humors, the patient is oft either to be let blood, or not letté blood: which *Galen* seemeth to witnesse, *li. 4. de Sana. vita. tuend.* saying: Some humors come to perfect nutriment before the blood: some are as it were, halfe concocted: some altogether rawe and yndigested: Some are but little different from the forme of blood: some are wholly changed into blood: some verie little, some more, some verie much. VWhen humors are a verie little, as it were, from the nature of blood, as not yet turned into the same: or when they haue a verie little exceeded further than the nature of blood: wee

may

may confidently open a veine. VVhen the same is more than a verie little, either the one way or the other, on this side or beyond; wee are to deale herein more considerately.

If the humors want much of, or exceed much beyond the nature of blond; we are altogether to forbear bleeding.

The twentieth let: after the small quantitie of the other humors, may be the quantitie of the blood: which the wise Phisition in this practise will most wisely regard. As for example: if there be little good blood in the body, and abundance of other humors: wee are to make staie from opening a veine. If any of the other three humors be but litle in quantitie, and the blood abundant; we may boldly let blood. Yea, by diligent obseruation on the Phlebotomer shall easily perceiue, what hurtfull humor may be withdrawen with the blood: and therefore, if there be many cholerike humors in the body of man, and yet not mixt with the blood: or that there be many flegmatike and rawe humors, and but little blood; by no meanes is a veine to be opened. This doth *Auicenna* forbid in *quarta primi, Cap. 20.* If the blood be good and little, and that there be in the same bodie many ill humors also: bleeding taketh away the good, and leaueth the bad behind. And a little after he addeth: that the Phisition is

H

dili-

diligently to beware, lest by vnskilful bleeding in these cases, wee bring the patient (after he hath extracted the blood; (the ill humors still remaining) to an excessive heat of cholericke humors, or too much cruditie of colde and vndigested humors. And although (as ye haue heard before) *Phlebotomy* dothe equally euacuate all humors. Yet because now so little blood is in the veines, whereof a little portiou is withdrawn by bleeding: it followeth that but a little blood, and lesse than before, remaineth now in the veines with the other humors: and that there is great plentie of the other humors: forasmuch as they come not out so redily, when a veine is opened, as the blood doth: and therefore, by a necessarie consequent, blood being gone: which was, as it were, a bridle to other humors: choler must excessively boile, and flegme become more colde and vndigested. V Whereupon also I gather, that those haue done ill; and verie vnskilfully, which haue reproued *Auicenn* of error in this place, seeing he is rather verie highly to be commended: then vpon euery small and light occasion to be reprehended.

Finally, wee are to forbear letting of blood after continuall vomings, hunger, great watchings, extreme labours, and after

all such things, as immoderately heate the
Body, drying and dissolving the powers
thereof: as *Rhases* noteth, *lib. 7. Chap. 21. ad*
Almonforem. Touching the causes requi-
ring *Phlebotomie*, they may soone be gathe-
red of their contraries, by those impedi-
ments here specified. And in the fifth Chap-
ter before, you haue heard both the direct &
indirect causes, which may moue to let
bloud: Vnto the which place I referre the
studious reader, at this time, concluding
this Chapter with the verses of *Schola Sal-*
terni: wherein are set downe most of the im-
pediments here spoken of.

Frigida natura, & frigus regio, dolor ingens,

Balnea, post eorum, minor, etas aeq; senilis,

Morbus prolixus & repletio porus & resca.

Si fragilis vel subtilis sensus stomachi sit,

& fastidium tibi non sunt Phlebotomandi.

Complexion cold, the countie so,

Great griefe, bathings, and yenerie.

Too yong, too old, long sicknes too

Stomacke sicke, and fastidities

Cannot abide Phlebotomy.

Of such persons as are meete or vnnmeete to be
let blood. Chap. 9.

IN this Chapter I wil be but brieft, because
I was prolix in the other before, from
whence many things concerning this point;
may be verie well, and with great profit ta-
ken. Neither determined I at the first, to
haue made hereof a distinct Chapter: but that
in certaine Latine writers I found the like
done before: whom I thought good to imi-
tate. First, therefore this practice is best for
delicate, id'e, and corpulent persons, which
vse to feed plentifully on the best nourishing
meates, without taking any great paine, as
Anticir witnesseth in *primi*.

Secondly, for such as haue abundance of
blood; which is knowen by many vnfalible
signes, and specially by thicknesse of vrine:
For abundance of blood maketh the vrine
thicke, as abundance of yellow choler ma-
keth the same thinn.

Thirdly, for such as abounde with Me-
lancholy, hauing in their bodies, much natu-
rall Melancoly running with the blood, be-
cause blood is not thoroughly purified from
it in the Liuer. And therefore in this case
Phlebotomy must go before purging, and not
contrarie, as hath beene aforeclude.

And

And here is to be noted, that Melancolie is two-folde. One kinde is naturall: another kinde is not naturall. Naturall Melancoly is the refuse of blood: And when the same aboundeth, it runneth about in the bodie with the blood: and to euacuate it, a veine must be opened: and so this kinde of Melancolie passeth with the blood, because blood and the refuse thereof, that is naturall Melancolie, commeth of one and the selfsame temperate heate. And when euacuation is thus done, a purgative may be vsed. But let purgation succede: *Phlebotomie* after some space, namely, when the concoction is finished.

Fourthly, bleeding is much profitable to those in whome is to be feared some extraordinarie heat, shortly to followe: or some extraordinarie boyling, either of blood or of humors, or some other perturbation of bodie, through too much abundance of these. Such persons as feare or feele any of these things, are presently to haue a veine opened. VVhere note, that this rule yet oft deceiueth diuers practisioners: For when their patients doe feele any heate or calefaction, presently they iudge it some ebullition of humors, and so let them blood: whereas the same may come through heate and inflammation of yellow choler: in which case

it is so farre off by bleeding, that the heat & ebullition should be allayed; that they are the rather thereby increased and stirred vp. For bleeding (as hath bene tolde you before) prouoketh the humors to runne thorough out the whole bodie, with the greater violence. In such a case, therefore opening of a veine should not be vsed; except the same heat and ebullition came altogether of abundance of humors: which is known through abundance of sweat; chiefly that sweat which is in the morning. For some do not sweate, but when they haue neede of euacuation.

Fiftly, it is to be practised on them also especially, whose bodily powers are firme and strong; and that are of a sanguine complexion; that is hote and moyst: and not colde and drye. *Rhazes, lib. 7. ad Almonso. Chap. 21.* sayeth: *Corpora qua venas habent amplas, & conspicuas, quaque hirsuta sunt, & colore inter rubrum fuscumque medio, adolescentum nimirum, iuuenum, & senum non decrepitorum. Phlebotomie presidia magis tolerare possunt: pueris vero & infirmis vena secanda non est, nisi maxima incumbente necessitate. i.* Such bodies as haue large and manifest veines, that are hairie, and of colour betweene red and browne: specially of strip-
plings,

plings, yong men and olde men; nor decre-
pites: may most safely awaye with the helpe
of bleeding. But wee are not to open a
veine in children, and weake folke, except
great necessitie so require.

Sixtly, this practise is with great heed
to be vsed: or rather not at all to be vsed af-
ter the paine of the cholicke, or rather im-
moderat perturbation of the bowels beither
aboue or beneath: whether it be *Cholica*
passio, or *Illiaca*. For the Humors, as ye haue
heard in the Chapter before, being mooued
by bleeding, the chollenicke humor would
flowe vnto the stomacke, and inflame the
same: nor yet after strong vomits. For the
like euent would followe: nor after a
laske.

These and such like extremities, vehe-
mentely heating the bodie, and greatly dis-
solving the same: if they should concurre
with *Phlebotomy*: they would too much
inflame the bodie, excessiueley moue the hu-
mors, and mightily weaken the forces of
Nature, as appeareth in the Chapter be-
fore. *Fig. 28.*

Seuenthly, weomen with child, or hauing
their termes, are not to be let blood. In weo-
men with childe, this is the reason: because
naturall heat seruing for digestion, would
thereby

thereby be diminished, and so nutriment would be with-holden from the child, which were verie dangerous, if the mother were farre gone with child. The fruite in the womb is nourished by the Termes: and not hauing whereby to be nourished, it must of force in the wombe (having life, and wanting nourishment) die for hunger. And againe being loosened from the naturall staies in the womb, it falleth out of the naturall boundes, and so causeth abortiō. This (I say) sooner happeneth when the yong frute in the wombe is growen much, and the mother farre gone therewith: for then it needeth the more nourishment, which it can neither finde nor haue, the blood being diminished. *Fulchsius* writeth more hereof *31. Coment. lib. 5. Aphorif. Hippon.* But here I am to adde: that albeit in auncient time it was accounted perilous to let blood weomen with childe, as appeareth by that which hath beene now said: yet out of the Chapter precedent *Fig. 19.* it partly appeareth, that this practise may be done discretely and safely, in weomen with childe, if necessitie so vrge: chiefly, if blood be abundant in them: if the bodie be firme and strong, I affirme that they may bleede: But because it hath beene reputed dangerous; wee must carefully see that we take not from them much blood. To take a little after the
fourth

fourth or fifth moneth of conception hurteth not. Yea, experience prooueth, that women thereby are made merry and light, whereas before they were very melancholly, feeling alwaies about them an vnaccustomed heauines: yea, through a little bleeding they are inabled with the more facility, to beare their burden to the due and iust time of their deliuerance. Againe, some women being with child require twise to bleede: that is to say, when they are halfe gone, and in the beginning of the eighth moneth; but hereof take great heede, except the woman greatly abound with blood. I haue seene saith *Gwin-terus* a woman with child, that hath beene let blood three times, in the second, the fifth and eighth moneth: because shee was very sanguine, and had experience once or twise before, of abortion the third moneth, if shee had not bled the seconde moneth. In the other moneths the fifth and eighth shee was in danger of suffocation, except shee had bled againe. VVhen women are brought a bed, they must not bleede, except their seconde birth be suppressed, or a Feuer molest them: In the which cases also, carefully consider in the Patient, her naturall strength. Those that haue their termes naturally, according to the due course of nature, and the course of the moneth: are not to bee let blood, except in immode-

inmoderate Fluxes, to drawe backe the matter. VVhen they breake forth naturally, the whole matter is to bee let alone to nature.

Eighthly, bleeding is not good for such persons as are bounde, and haue the excrements retained. For as yee heard in the eighth Chapter, *Fig. 2.* The veynes beeing emptied, they attract matter from the next members, and they attract from the stomacke the moystnes of the excrements, whereby they become more dried and baked, bring diuers waies annoyance to the body. In which case the wombe by Art is to be made solluble, as appeareth in the place now cited.

Finally a veyne may and is to bee opened, without hurt or daunger, whensoever wee feele our seues to bee heavy, lumpish, and stopped or stuffed in our bodies, first considering the quantity and quality of the fulnesse: which wee may knowe and discern, by certaine tokens, whether it bee *Plenitudo quo ad vasa*, or *quo ad vires*, as was shewed in the first Chapter, the more heauy and drowsie a man feeleth himselfe to be, so much the more it appeareth to bee that fulnesse, which is *quo ad vires*. But if hee feele the former stuffing in his body in-creased,

creased, than is it that plenitude. *Quoad vasa*. And thus much to know the quantity of the Repletion.

The quality of the fulnesse is knowen, partly by the colours; partly by those things which are very neerely ioyned to the nature of the humors: But of these signes sufficient hath been spoken before in the first Chapter.

In these cases of Repletion, if the strength of the body shall bee answerable, wee are to open a veyne: for as much as bleeding is the chiefest remedy to abate fulnesse. But if the stuffing and fulnesse of the body bee greatly grievous, and the state of the body not answerable: it is not alwaies necessary to let blood, As *Galen* noteth, *lib. de Curand. ratio. per sanguinis missio*. And againe, *Phlebotomy* is not only profitable when any of the foresaid fulnesses grieve and oppresse vs: But also (as hath beene saide) in cases without any fulnesse: As in the beginning of an inflammation, which cometh either of a blow, ache, paine, or weakenesse of the member. For paine (as was saide) draweth the blood vnto it, and of the weakenesse of the bodily parts, cause an inflammation without fulnesse.

Also

Also when the disease is great and vehement, we let blood, although no fulnes appear in the Patient: yet alwaies hauing a regard to the age and strength of the party; as *Hippocrates* setteth downe in these wordes, 4. *Vit. acutorum*, 17. *In acutis morbis sanguinem detrahes, siue vehemens morbus videatur, floruitque agrotanti aetas, & virum affuerit robur.* That is, in sharpe disease thou shalt let blood if the sickenes seeme great, if the age of the Patient permit, and that there be sufficiencie of naturall strength. And thus much of the persons that are to bleede, concerning the which point, more may be easily coniectured and collected of the studious Practitioner, from the Chapters precedent.

What corruption of Humors bleeding remoueth from the veines. Chap. 10.

IT hath beene said, that bleeding generally, is the present and proper helpe, when Humors offend in the veyns either in quantity or in quality. It hath been already declared, that some humors it euacuateth, other some it reuoketh and pulleth backe, which is called reuulsion, whereof hath beene spoken in a distinct Chapter by it selfe. Now order requireth in some brieft sort to shew what corruption of humors generally, bleeding euacuateth

cuateth from the veynes. The defect of humors in the veynes is either *Plethora*, or *Cacochymia*, as was shewed in the first Chapter. The onely and peculiar remedy of *Plethora*, or abundance of bloud, is the opening of a veyne. And forasmuch as fulnes of bloud is of two sorts: One of fulnes simple and pure, consisting of a like proportion of the best humors: and the other vnpure and compounded, taking part with *Cacochymia*: that is, abundance of humors corrupted in the veynes. Therefore it is to bee marked, that in both these Repletions, the opening of a veyn greatly profiteth. V When so euer therefore the muscles are sounde, whole, and full, the veynes large, great, and swelling, menacing thereby imminent danger to the members: presently bloud must bee detracted. After which euacuation these effects will insue: mitigation of paines caused by ouermuch retching of the veynes: ease vnto the body, which seemeth as it were nowe disburdened of a grieuous and waighty ponderousnes: a more nimblenes to all exercise and labour than was before: an increase and refreshing of the naturall heate: an opening of the straight passages and pores of the members. Finally, there will follow a happy repulse of diuers imminent dangers and diseases, wherevnto by all probability in short time the body would

would haue beene brought.

For it is greatly to bee feared, lest the veynes ouerreachd with fulnesse of bloud, should open and breake, and through that meanes cause inflammation, or lest some generall obstruction should arise, which might keepe backe the inward heate, and so viterly choke vp the bodily forces whereby might bee caused some vehement hot feuer, or as it oft hapneth a sodaine death of the party.

Now from these daungers, can no man bee safely and speedely freed; either by purging, exercise or abstinence, but by bleeding, and with the bloud is this Repletion most safely abated.

That fulnes which is vnpure and compounded, is not so safely cured by bleeding, and yet the more nigh that it cometh in likeness to that Repletion which is simple, and pure: the more confidently, and the more plentifully we may let bloud. And the more vnpure that it is, the more carefully and sparingly ought a veine to bee opened. Therefore those persons that haue an ill constitution of body, and yet haue their veynes abundantly filled, or that beeing of a constitution, are yet repleat with corrupted meates: These I say, are to leaue no longer, but to auoid the danger

danger of fulnes, and the impurities remaining behinde, are to bee expelled by Purgation.

Hot chollericke Repletions, of all vn-pure constitutions, are most safely abated by bleeding, because bleeding in this case, not onely diminisheth choler, but also cool-eth the same mightily.

Melancholly Repletions, can nothing so well away, with this practise, because it doth not so excede in heate, that it neede at all any refrigeration or cooling, and the flegmaticke constitution can in no case brooke it, for being a very cold complexion it quite reiecteth bleeding. For *Phlebotomy* by great cooling, so greatly increaseth crudi-ty and rawnes in the body, that it can neuer or very hardly bee recovered or amended.

VVeakenesse of bodilie strength, re-sembleth this foresaide Repletion, and therefore also by the selfe same reason, reiecteth any large euacuation. And in truth, is not in this respect to bee dealt withall, except the veynes abundantly replete, threaten some great hurt, or that necessity so require it, and then it must not bee done all at once, but by little and little, as it hath beene before declared.

There-

Therefore in each and every fulnes that is vnpure, we are to begin with opening a veyn; for without it wee cannot safely afterwarde purge. For a vehement purgation especially (if bleeding haue not gone before) troubling and molesting the full body both with much heate, and by force of the attractive vertue: bringeth the Patient into greater hazarde than he was before, and therefore to conclude this point, the veynes being swollen, and filled, if moderate bleeding doo no good, it can doo no harme at all.

The other fulnes *qua ad vires*, which cannot very easily be knowen by signes, althogh it cannot ouerstretch or breake the veynes, nor ouereome the inward heate: yet because it oppresseth the weake forces of nature, lest there should insue putrification or corruption of humors, it may be diminished by opening of a veyne: Leauing yet behinde so much as nature may easily rule: yea, and the same also, (because it bringeth no doubt of present danger) may be profitably taken away, with spare dyet or abstinence. Of corruption and putrification of blood and humors in the veynes without plenitude, called *Cacoehymia*: that is, fulnes *qua ad vires*: There riseth a great doubt, whether the same may aptly be remooued by bleeding. VVee answer, that to remoue by bleeding a simple corrup-
tion

tion of humors in the veynes is profitable and easie (regard being had) both to the abundance thereof, and to the forces of nature in the Patient. For albeit when a veyne is opened, all humors issue forth equally, and that there remaine behind still as there did before one and the selfe same proportion of humors: yet because now by bleeding patt is abated of that burden, wherewithall nature was before oppressed, the forces and powers natural waxe not the more feeble, but they become more strong and chearefull, so that they can beare with the greater ease, those humors, which as yet remaine still behind, and nature hir self governeth them with farre lesse trouble than before. And hereupon in continuall fevers, when there is great crudity and corruption in the veyns, bloud being often times detracted, the vrine also being red, troubled, and thicke before: It appeareth nowe more cleare, and sheweth forth euident signes of concoction. And note (here by the way) that the *Phlebotomer* must be very well exercised in those signes, which prognosticate fulnes, & repletion. Yea & ye must also know perfectly the place of each particular humor: lest after the manner of the vnskilfuller sort, when the nose a little bleedeth, and the vrine appeare somewhat red, by and by yee doo let bloud. Whereas bloud often times easily commeth forth.

Worth not onely by reason of fulnes, but vpon
 pondiaers other occasions: nature her selfe
 often attempting voluntary eruptions of
 blood. Hereof it cometh that such persons
 as haue (as it were) the small litle mouths of
 the veines called *Oscula*, eaten or gnawen: or
 that haue a weak and apostumated Livers
 and that *Hydropicall* persons bleed oft at the
 nose, or vnder the haire of the head. Also
 urine waxeth red and bloody, by
 the fretting of the stone in the Raines. Urine
 waxeth yellow in that kinde of yellow jaundies
 which is simple in *Scurbopalis*, That is
 in the hard part of the liver: and in that kinde
 of dropsie which is called *Ascites*. Yet in
 these effects we are not to let blood, for *Cathartice*
 proceeding of corruption, of the
 bowels is not that way cured. Therefore the
 certaine knowledge when a veine is to be
 opened necessarily, is onely gathered of those
 markes and tokens which manifestly declare
 abundance of each humor: And hereby yee
 may gather, that bleeding alone speedily hel-
 peth that corruption of humors, which lyeth
 in the great veines, and only freeth the Pa-
 tient from this kinde of corruption, except the
 same take beginning from the bowels ill af-
 fected: and in this kinde of corruption, purgation
 is more meete than bleeding. And thus it ap-
 peareth in a generall sort, what corruption of
 humors

humors the opening of a veyne doth remedy.

A particular rehersall of those diseases present, & future, which are cured by bleeding.

Chap. x.

First as yee haue heard, a veyne is profitably opened in the two plenitudes, nature being strong and the age convenient. In the fulnes *quand uires*, haue speciall regard that the naturall forces be firme. But if in this plenitude, raw, cold, and vndigested humors bee greatly gathered together in the body, forbear; taking this as a rule, that with great abundance of raw humors, the strength of the body cannot stand, as yee haue already partly heard; and as *Galen* witnesseth; *lib. de turandi ratio: per sanguinis missionem*.

Secondly, it helpeth diseases present, and future, and serueth both in the curative and preservative intention. VVhere read that *Galen* in the spring time did let blood those persons that were subiect to these diseases following: to wit, Spitting of blood: Apoplexies: Falling sickness: Pleurisy: Pneumonia: Pluracies: Anginas: Stoppages of Hemorrhoids or Fiermess: Swimmings in the head: The Gowt in the feete and in the ioynts. All which *Astruc* also setteth downe in *quarta primi cap. de Phlebotomia*.

I

Thirdly,

Thirdly, we doo not onely open a veyne in repletion, as *Menodorus* falsly supposeth; but also as hath beene said without fulnes: when wee feare some inflammation through some fall or other accidentall griefe. And moreover as wee haue already specified, wee open a veyne for two purposes, sometime to euacuate, sometime to pull backe immoderate flux of humors to the contrary part, as *Galen* noteth *lib. de Curand. ratio per sang. missio. cap. 11* & *9. Method. Medend. cap. 11*. As to stay bloud at the nose we open a veyne in the arme. For this cause *Galen lib. 11. Method. Medend. cap. 21*. in *Letargus* which is a drowlie and forgetfull sicknes, rising of impostumation, of cold putrified steame, especially, in the hinder part of the braine: whereby memory and reason almost perisheth, and the sensitiue power is greatly hindered, causing men commonly to forget their owne names; also to shut their mouthes, after they haue gaped and by no meanes to stay from sleepe. In this disease (I say) at the first beginning thereof, *Galen* willed to open a veyne, albeit the disease be colde, rather as it seemeth to reuoke; than to euacuate the matter: or *Galen* so appointed it, because fulnes is alwaies concurring with this forgetfull and drowlie disease. *lib. 11. Method. Medend. cap. 15*. Hereupon *Galen 11. Method. Medend. cap. 15*. affirmeth it to bee very healthfull to open a veyne

veyne not onely in continuall feuers called *Continentes*: but in all feuers caused and kindled of a putrifying humor, which should not seeme to bee true, especially in intermittant feuers which leaue off for a time, as are tertian and quartan agues. Forasmuch as in these, blood offendeth not in the veynes: but some other humor beside blood, putrifieth without the veyns, which by bleeding in reason cannot be euacuated. This place of *Galen* cannot sound to reason or experience, except we vnderstand *Galen* to giue vs aduise to euacuate by bleeding the matter of such intermittant feuers, as haue also with the blood, fullnesse, and abundance of other humors concurring: So that this may bee his meaning, Bleeding may bee vsed in intermittant feuers, if they fortune to haue abundance of humors ioyned with the blood. For obstruction as *Galen* sheweth *lib. 1. Meth. Meden. cap. 4.* happeneth in rotten and putrified feuers, sometime through abundance of humors, sometime through the clammines, grossnes and thickenes of them. *Galen* therefore counselleth to let blood in staying and intermittant feuers: rather because of the abundance, than the rottennes or putrification of the humor without the veynes. And that this is his meaning, appeareth by the words which *Galen* afterwards vseth, saying:

Forasmuch as nature ruling the body, by bleeding is lightened and disburthened of that wherewith she was before oppressed, therefore shee will with ease overcome that which resteth and remaineth behinde, which is a true signe that *Plethora* or fulnes is also annexed to such feuers.

Fourthly, in bleeding, we are not onely to consider the disease it self, which wee determine to remedie, but also oft times the cause thereof: so that whatsoeuer the sickness be, if *Phlebotomy* may remoue the cause, then also it taketh away the griefe it selfe in the ende. Hereupō sometime, albeit the disease be cold, yet when the cause moueth vs to open a vein, we may safely bleede without hurt. *Hippo.* (saith *Galen*) sheweth a cure of his done on a woman by letting her blood in the Ankle. This woman after child-birth, was not freed of her seconds: then a shaking came vpo her. This woman I cured (saith *Hippo.*) by letting her blood in the Ankle, for all her shaking. Shaking is a cold affect, & blood is hote; and they that must be heated, must not haue blood taken from them. He for al that, boldly did it: & he sheweth the reason. I considered (saith he) the cause, & the occasion of the cause. He knew the cause of shaking, was a bundance of blood kept backe, which was a burthen to nature. But occasion of the cause

was

was the grieve of the matrix. This abundance requiring euacuation, & the affected part (he-
 wing the place most fit for euacuation; consi-
 dering both these things together, he let her
 blood in the ankle, because the wombe or
 matrix was affected. In grieues of the womb
 or bellie, we take the vaine of the ankle, kno-
 wing by the Anatomic the communion be-
 tweene the veines: for some veines commu-
 nicate to some part of the body, & others to
 other partes. And euacuation is to be made
 from such veines as haue fellowship with the
 member affected. For, as yee heard in the
 Chapter of Reuulsion; if we take that veine
 which communicateth not with the part af-
 fected, wee hurt the whole bodye, & do the
 grieve no easement. The profitable vse of this
 fellowship of veines appeareth especially in re-
 uulsion or pulling backe of humors, which is
 both wel & speedily done, when this comu-
 nitie of veins is obserued; as was there decla-
 red. But let vs return to our former purpose.

Fiftly, by opening of a veine, is cured the fe-
 uer called *Synochus*; both that which cometh
 of ebullition of blod without putrifaction, &
 that which is caused with putrifaction of the
 blood. So are also hereby cured continuing
 feuers, coming of putrifaction in the greater
 veines. And to these diseases reckoned vp of
Galen Fig. 2. we may adde these that follow;

Frenſies, *Opthalmia puroris* i. an apoſtumatio about or behind the eares: diſeaſes of the Liver & ſplene: *Nephritis* i. paines of the reins and backe: inflammations of the wombe or matrix: of the priuie partes: arme-holes: armes, thighes, & ioynts, Finally, all inflammations inward or outward, which the Greeke call *Phlegmonæ*. Theſe inflammations are cauſed by flowing of blood to a member when a veine is open & broken: which blood there abundantly heaped together, bringeth forth a tumor or ſwelling: To theſe alſo are to be added: a conſumption in the beginning: vomiting of blood: bleedings at the noſe, bely, or hemorrhoids: at the beginning of which diſeaſes, the opening of a veine greatly profiteth, ſtaying the force of the fluxe, & by re- vulſion, if the veine be opened at the contrary part, calling back much of the matter from the member affected: ſo that bleeding is a preſent helpe for thoſe diſeaſes whatſoever, which take the beginning from too much abundance of good blood. Thoſe ſickneſſes which come of an vnpure & mixt plenitude, becauſe they are ſomewhat neere linked vnto theſe; they may alſo be cured by bleeding. And although the matter of theſe diſeaſes be vnpure: yet either it lyeth in the veines, or procedeth from the veines. Againe, by bleeding are cured Carbuncles, felons, moyle ſcabs,

scabs, outward rednes in the skinnē & such like: all these are cured by this practise.

Thus also is cured the burning ague called *Causus*, & all continuall feuers, whose putrefaction is contained in the greater veines.

Yet sometime a continuall feuer commeth of an humor heaped together & inflamed about the stomack, chiefly about the mouth of the stomack, & the flat parts of the Liuer, which feuer cannot be take away by bleeding. Neither can the cause therof by this practise be remoued. Pure intermittant feuers, whether they be *Tertians*, *Quartans*, or *Quotidians*, because the next matter & proper cause of them is not in the greater vessels, neither floweth from the veines, are not conueniently cured hereby. And yet sometime in these also we bleede, either when the veines swell with immoderat fulnes, so that therby some danger at hand may be feared: or when any accident of hote inflamed & boyling bloud perswadeth vs therto: as are namely beating paines of the head: tossings & mouing of the body this way & that way: excessiue heat almost stragling the pacient. Howbeit, these many times come also of boyling choler about the inward partes called *præcordia*, in the which cases, bleeding remoueth neither the feuer, nor the cause therof: but onely asswageth the vehemencie of those accidents, which

which are present, or shortly like to ensue.

Further, concerning particuler affects cured hereby, we may adioyne, beating paines of the head: *Letargus* spoken of before *fig. 3* and trembling of the heart. These with the foresaid, are not onely cured hereby, when they presently affect and afflict the patient, but happening yerely vnto vs: so that it is verie likely we shalbe grieved with them in time to come. VVe may verie well preuent them by bleeding, whē we haue once espied plenitude to haue beene in vs, the causes of these infirmities. For there is one & the selfsame way of healing common, both to maladies present and future. And those things which are to be done when diseases are present, may likewise be attempted when the same are but a beginning, or nigh at hand. And here is to be repeated that which hath bin alreadie said, & cannot be too often spoken: that sometime we open a veine, not onely without fulnesse, but euen in emptinesse: namely, when some effident cause: as a bruze, ache, or heat, causeth flux of humors, & bringeth inflammation to the members: and this is done, not for any greatnes, or feare of any present griefe; but for some doubt of that which is a beginning, & as it were, at hand.

Here ariseth a doubt, whether it be more vsuall to open a veine, the disease being now present,

present, or future & nee at hand. The answer
is, that when the fulnes is very great & dan-
gerous, though the disease be not yet cau-
sed, notwithstanding, without hurt the paci-
ent may bleed plentifully, because the blood
offendeth nature in the abundance there-
of. And hereby the Patient is oft made safe,
and escapeth the daunger of sicknesses ap-
proching. But when a disease is bred, and the
forces of nature impaired or lessened, either
by the presence or long continuance there-
of: iust euacuation of blood, without hurt,
can by no possible meanes be made. Where-
upon Hippo counsellet to prevent by blee-
ding accustomed impediments rather then
to stay their approach and coming. Hereup-
on also in that kind of feuer called *Epheme-
ra*, which dureth commonly but one day, &
is caused of obstruction. In the feuer called
Synocris simplex, blood is abundantly with-
drawn, before the matter do putrifie. Ther-
fore this is the cōclusion of this matter, that
blood is let more safely before the sicknes be
present & already come, then when in truth it
is present: & with greater profit are we to see
his coming a far off, and so beware of him,
then to stay til he come, & then labour to repel
him: wherein we are to remember a pretty and
common verse serving fitly to this purpose.
Agrius eiicitur quam non admittitur hospes.

If once a guest be enterteind;
 with greater shame we him repell:
 Then if at all we had not him
 receiued with vs in house to dwell.
 And also this verse of Ouid,

*Principiis obsta, sero medicina paratur
 Dum mala per longas conualsere moras.* .i.
 Beginnings itop, too late comes cure,
 When once the mischiefs grow in vre.

Reason imputeth thus much: that when
 sicknes presently possesseth any patient, the
 same requireth a speedie remedie, with a
 greater necessitie, than when as, it hath not
 yet inuaded. Whereupon this also followeth,
 that opening of a veine is more necessarie,
 when a griefe is present, then when the same
 is but onely approaching. The crueltie of a
 present aduersarie vrgeth vs with a greater
 necessitie, than the daunger of an enimie
 that may come, but is not yet present. And
 so I conclude, that in a present disease there
 is a necessitie. In a disease onely imminent,
 there is but onely, in a manner, a securitie.
 For a further instruction, to know what dis-
 eases in particular are cured by this practise:
 I referre thee to a Chapter hereafter fol-
 lowing, which declareth in particular,
 what veine is to be opened in each particu-
 lar disease.

What

What voluntary eruption of blood profiteth in
sicknes. Chap. 12.

Blood voluntarily and of it selfe issueth
foorth from the nose, the veines called
Hæmorrhoides, and the belly: and sometime
also out of the mouth by coughing and vol-
mitting. From other partes of the bodie it
commeth not except very seldome, and that
against nature. But from what part soeuer it
come, if it bleede slowly and sparingly, and
albeit the same bee according to nature, yet
we are to account it vnprofitable: for it ne-
ther remoueth the disease, neither dissua-
deth vs from that conuenient euacuation by
art, which the vehemencie of the disease re-
quireth. That voluntarie flux of blood which
is abundant either in plenitude, oppressing
nature, or in that feuer called *Sinocha* is pro-
fitable, and oft cureth the same in the iudge-
ment day called *dies Criticus*. For in as much
as then a generall euill equally (as it were)
occupyeth all the veines, from whence so-
euer abatement of blood happen, it cea-
seth these accidents of heuines & fulnes.

But in the feuer *Causa*, and in all other co-
tinual feuers, in the which other humors pu-
trifie in the greater veines: blood issuing
forth neuer so plentifully, bringeth not such
profit; and bleeding at the nose, though it
helpe

watchinges, rauinges, headach and other
such like accidents, yet very hardly it remo-
ueth the proper cause, and roote (as it were)
of the disease: except there fall out some im-
moderat bleeding, euen (as it were) to the
dissolution of the natural forces: which in ve-
ry deed is neuer to be wished or desired. For
corrupt bloud last of all floweth out of the
nose, yea and not before there hath passed
great store of the good & profitable bloud.
And therefore in these feuers, albeit the pa-
cient bleed much & oftentimes, yet a veine
in the arme must be opened. Experience (I say)
proueth, that oft out of the nose commeth
good bloud, both in colour and substance,
when vnpure and filthy bloud is drawn
out of the arme.

A boundant flux of bloud in these diseases,
out of the *Hæmorrhoides* veines, are out of the
belly: because it floweth next of all from
the holow veine of the loines: the same is to
be accounted much more profitable than the
abouesaid. Yet neither doth this many times
take away the verie roote of the feuer, which
lieth lurking in the veines next the hart.
Wherupon it cometh to passe, that oftentimes
we let bloud in the arme, notwithstanding:
yet but sparingly in flux of termes, in womē
brought a bed, & freed of their seconds: lest
we inflame & kindle in them the heat of an
ague

ague. A like reason and more apparant there
is also sometime to let blood in the arme,
when the hemeroids flow. For inflammation
and other diseases of those partes which are
about the liuer and midriffe: are litle or no-
thing at all eased by fluxe of blood from the
hemoroids or belly: Neither those that oc-
cupy the lower partes by flux of blood from
the nose. Also flux of blood out of the right
nostril helpeth not affectes on the left side:
nor contrary. And therefore voluntary erup-
tio of blood without reason forbiddeth not
that bleeding which is to bee done accor-
ding to art, reason and experience. Again
Phlebotomy helpeth diseases either of it self,
or accidentally. Of it selfe it euacuateth or
pulleth backe. Accidentally, sometime it
cooleth, drawing forth the hotter blood:
sometime it openeth obstructions, yet only
those which proceede of fulnes, and it is al-
waies to bee vsed in those affectes, which it
helpeth of it selfe: but not alwaies in those
which it cureth by accident. To helpe hot
distemperature of the Liuer by bleeding,
when there is in the Patient litle blood, is
not the best way, but rather so for that pur-
pose such things as are of their owne nature
cooling, and take proper remedies for hot
distemperature: and thus much for this
matter.

How

How to know by certaine signes the greatnes of the disease, and the firmenes of the naturall forces: wherby coniecture may be made, whether the Patient bee to be cut ~~by~~ or not.

Chap. 13.

IN euerie affect, wherin bleeding anaileth: the same is out of hand to bee done, if the disease be vehement, and the strength of nature agreeable. Touching the disease it is sometime so small, that it is cured alone of it selfe without the helpe of art. And although at other times the same be very vehement & great, yet the forces of nature not onely feeble, but also are indeede so weake, that they cannot tollerat any euacuation. Yea vndoubtedly this practise would undoo, destroy, & dissolue the whole substance of the naturall forces, for whose preservation sake (in truth) we take the cure in hand. Therefore to know thorowly and perfectly, how much bloud is to be take in euery disease, we must first consider how great and greuous the sickness is, and how firme and strong the powers of nature are. Now a disease is either already caused, and in state, or is now a beginning or proceeding to state. Again a disease is called great & greuous, ether in regard of it selfe, or of the cause thereof, which consisteth in the humors, or in regard of the greuousnes of some accident. But first, it is great
of

of his owne kinde and nature. Thus an inflammation in any mēber is more greuous, then a simple distemperature in the same member. And againe the greatnes of a disease is iudged by the great vse and excellency of the mēber which it possesseth: as if it be any principall member, namely the hart, braine, or Liuer, and it is contraty when the grieffe is in a base, vnnoble or no principall member. Againe, iudgement touching the greatnes of a disease, is to be giuen according to the locall placing of the members, as they stand next to the principall partes. Therefore next the diseases of the hart, braine, and liuer, are to be accompted those of the lunges, sides, stomacke, and splen: and wee are otherwise to iudge of those that are in parts further off: as namely the bowels, raines, bladder and the outward limmes consisting of bones, flesh, and sinewes, called in Latine *Artus*, and in all the other members, placed in the extremities of the body. Againe in this point iudgement may be giuen by the sensibleness or feeling of the member wherein the grieffe is, if the diseased member haue a quick sense, and a liuely feeling, the greater ferre is the danger, than if the member were but of a blunt and dull sense.

The greatnes of the cause in any disease is iudged by the condition and nature of the

K

humour

humour that is gathered to the part affected, & is there the continual matter of the griefe: wherein we are to consider whether the humour be good or bad, putrified or not putrified, or of what ill quality it is any manner of way. And also whether the same humour be too much or too little: & if the humor which is the cause of the sicknes be wicked & corrupt, then we may soon iudge the griefe to be great. The greatnes of the antecedent cause is perceiued by the fulnes or emptines of the veins, bowels, & of the whole body, & by the purity or impurity of humours, cōteined in the same. We iudge the greatnes of the accidents, by the intention & remission of those things which do chaunce: as the increasing or diminishing of paine, thirst, appetit, watchings, and such like: all which bring down the forces of nature, and make the Patient to languish.

As for example: If any yll disease, as namely an inflammation, possesse the Liver, braine, or parts next the hart, and that there be a venomd and putrified humour, where-with the veines of the body appeare to bee stuffed and filled; so that there insueth in the patient, agitation of the bodie, ill appetite, thirst, paine, & watchinges: this sicknes we may esteeme vehement, in the which euacuation may do great good. And againe a
disease

disease in which these do not concurre, but rather their contraries, we may iudge a small infirmity and not requiring any euacuation. Betweene these are their interiected sicknesses, of a middle sorte, which are to bee euacuated more or lesse according to the remission or intention of the disease, and the accidents thereof.

Now let vs come to the estimation of the forces of nature, of the natural powers some are setled, and bred in particular members: and are common, and flowing to all partes of the bodie. The forces of nature bred and setled in a member, haue one and the selfe same essence (as it were) of the inward heats and they are called one nature, and are ingendred (as a man might say) of the internall spirits, and the first begotten moisture: whereunto is added (as a matter thereunto requisite) a sound and whole substance of bodilie members. The essence of the common forces of nature, haue (as it were) a threefold originall or beginning, or is a threefold spirit diffused and spred into the whole body.

The force called *virtus animalis*, the animal vertue, is diffused from the braine, by the sinewes: The vitall force from the hart, by the arteries: The naturall strength from the Liuer by the veines: The bodily powers

that are bred in each of these parts: the brain, the hart, and the Liuer, are susteined by those common and flowing powers of nature: so that the whole living creature, namely man is ruled and gouerned of both these vertues: *Inste of communes*, settled and common (to vse as good english wordes as wee may) to make manifest this great point of phisicks skill. Therefore if this living creature and most excellent creature man, bee in perfect health: of necessitie these powers of nature must be found and vncorrupted, which they will bee, if their substance consist in a iust moderation, that is to say, in a iust or right quantity, and in a good temperament. And contrarywise, if the quantitie or temperament of their substance, be inuerted, chaunged, turned, or altered, they must needs suffer hurt and offence, and so become weake and enfeebled: Whereby their functions are presently hindered, the rule of all the bodie is disordered, and at length there will follow euen extinction of life it selfe. And therefore whether the natures forces are weake or strong: may be knowen by their seuerall operations & duties: Thus raw and vndigested excrementes, either by siege or by vryne, when either the one or the other is thinne, watrish, or like vnto water, wherein flesh is washed, do shew imbecillity

cillity of naturall force: so doth holding
backe of these excremntes, or any other fun-
ction naturall, that is staied or hindered.

Wee discern the vitall strength to be enfe-
bled by obscure languishing, and smal pulse:
by breathing hardly and with paine, and
ofner, & more quickly thā was accustomed:
by smalnes and faintnes of speach: so as the
same onely come thereby, and not thorow
fault of the lunges and brest; as sometime it
doth, in whom notwithstanding the vitall
force may be sufficiently strong. The contrar-
ies to these, declare firme strength of the vi-
tall vertue.

These things declare the animall powers
to be enfebled: tumblings and tossings of the
bodie, the senses offended, watchinges, ra-
uings, and other principal actions hindered.
The contraries hereunto shew the contrarie,
that is, firmnes & strength of the animal ver-
tue. By these functions then you see, how it
may be coniectured what power in nature is
hurt or offended.

Againe these powers are offended, or seem
enfebled two waies: either because they are
outwardly oppressed, or because they lan-
guish inwardly of themselves, & in the eua-
cuation it helpeth greatly to know the one
from the other: for the forces oppressed re-
quire large euacuation, & the other none at al.

And the distinction of these is to bee sought out of their euident causes. If causes haue gone before, which haue already altered or wasted the substance of the forces naturall: then wee may iudge them that they are faint and languished. If these causes haue not been precedent, but that the Patient is only troubled with an vnaccustomed ponderosity: then these are but wronged and oppressed. The euident and outwarde causes which alter the temperament of the settled vertues: are burning Agues, which melt the bodily moystures, or whatsoever els, that excessiuely heateth, cooleth, moysteneth, or dryeth, the sounde, massiue, strong, and solide parts of the bodie. The substance of these parts is wasted by very long sicknes, which bringeth the Patient into an *Atrophia* that is, a kind of consumption, wherein the body consumeth away with leanness, and is not nourished albeit the sicke continually eate his meate: Or into *Tabes*, which is an other kinde of consumption, wasting the body by long sickenes and lacke of nourishment, consuming and putrifieng the Lites: drying away the Patient, for want of naturall moysture, hauing matter and bloud mixt together.

The threefold spirit of the flowing humor is altered, either through some distemperature, or some poisoned qualitie, of the aire
which

which compasseth vs about, or through the ill
quallity of other thinges, which violently
breake in vppon vs: or through some wic-
ked disposition of the bowels or other hu-
mours. The heate of the aire, not onely of
that which outwardly compasseth vs about,
but also that which wee draw into our bo-
dies by breathing, inflameth first the lunges,
then the hart, & all the spirits, so far till often
times a feuer is kindled, and caused thorow
thesame. Thorow which distemperature of
the spirits, needs must the strength of the bo-
dy languish & becom enfeebled: yea by this
excessiue heat of the air, the spirits are not on-
ly subiect to alteration of temperament, but
besides they are also thereby greatly wasted
& diminished. Euen so in like maner, immo-
derat cold outwardly, & the same receiued
inwardly into the body by breathing, weak-
neth the spirits, & inward heat: yea & sotime
altogether put out, and extinguish the same.
The aire venemous & pestilent, drawen into
the bodie with an infection quite ouertur-
neth the spirits of life and of nature: wherof
ensueth grieuous sicknesses to the body, no
litle decay of bodily strength, yea life it selfe
is taken away by the sodaine disease, com-
monly called the plague.

Now much more apparantly are the spi-
rits infected with bitings of Scorpions, mad

dogs, and venomous beasts, than by the contagion of the Aire.

Moreouer they are inwarde and hidden causes, which doo greatly alter the spirits, whensoever any principall part of the bodie, is troubled with any distemperature, vpon any occasion: If the same proceed far, it must of necessity goe to the spirites there bred and ingendred: And so by offending of them will lessen the strength and vertue of nature. Also if any corruption of humor rule in the body, the spirites are disperced, and offended by the corruption or distemperature of the same humors. Therefore when abundance of rawe humors, passeth either the whole body or the stomacke: and chiefly the mouth of the stomacke, the substance both of inward heate, and of the spirites waxe cold, the Patient languisheth, yea, sometime hee giueth ouer the Ghost and soundeth. Herevppon also when hot choler burneth, as it were, the inwarde spirites with immoderate heate, or nippeth and pricketh the mouth of the stomacke: it is the cause of no small euils in the body of man. Sometime also it falleth out, that some one or other humor in the body is mixed, besprinkled or bedewed, as it were, with some kinde of venomous filth, as when the seedy moysture is kept in and putrifieth: Or menstruall termes in weomen longer

longer retained than is their due course: or when any clodded bloud remaineth behind, and is not expelled: the vapour of these and ~~the~~, ~~flowing~~ and decaying the spirits; bringeth sometime Sincope: sometime suffocation of the wombe: sometime the falling sickenes, and such other mischiefes, which greatly annoy the forces of nature. And thus diuersly are the spiriets offended through distemperature.

Againe, the substance of the spirits, and naturall forces is diminished, sometime euen of it self (and as a man may speak) voluntarily of his owne accord: for the substance being of it selfe thin and wastable, and included in an hot thin and open body: Therefore of it selfe it dissolueth & vanisheth away. Sometime the same is decayed by occasion of outward and euident causes, as are namely these: The aire which compasseth vs round: hot and dry, immoderate euacuations: vehement motion: affects of the minde: paines, watchinges, great emptines, and all vnprofitable excrements: which cannot but carry with them from the body as they passe, a great quantity or portion of the vitall spirits: seeing their substance is spread ouer the whole body, and also flowing with other humidities: whereby it cometh to passe, that whether the belly be very laxitie by nature, or by medecin: or that the
vrine

vrine bee made inmoderately as in the infirmity called *Diabete*: or that matter or water go plentifully forth of the brest, stomack, belly, or any great apostumation: thereby or necessity the forces of nature must be mightely decayed. Much more manifestly must it so fall out, when there is any great euacuation of bloud, or good humors, whether the same pass forth of a wound, the nose, hemorrhoids, Piles, belly, or other place. In like maner abstinence which taketh away from the body needfull nourishment, enfeebleth nature. Labor likewise and heat disperseth the substance of the spirits by vapors & sweat: And therefore they which liue continually in labor about furnaces, & hot baths, because daily some of their substance decayeth: doo not commonly so abound with excrements, as those that leade a slouthfull delicate and idle life.

Moreouer they that liue very incontinently, haue also for the most part very enfeebled bodies, able almost to abide no Phisick; & by a continuall decay of seedy moystures, they haue their spirits mightely consumed: wherof look before in the 8. cap. Fig. 17. Great ach & paine worketh the same effect, more than labour doth. Also of passions of the mind, some suffocate the spirites and inwarde heate, as namely feare and sorrowe: some wast and spread them abroad, as mirth and gladnes.

These

These are the causes, which being in excessse, do wast & consume inward heat, the spirites of life & strength of the bodie: which being apparant as they are, may be vnto vs assured markes & signes, wherby to know, whether the forces of nature haue yet lost, or do still retaine their powers, vertue & strength.

Those causes which onely oppresse the strength of the bodie are inward & hidden, & not so known vnto vs, as the forsaide: and they are these: obstructions, & immoderate abundance of humors which stop the veines & arteries, because they are thick, grosse, and slow humors: by meanes wherof they keepe in the spirits, & do not suffer them to be cooled, as it were, by any kinde of winnowing: whereby the vse of the spirits is taken away: their vertues are oppressed, and grieuously with the inward heat offended: which matter verie oft faileth out so in the Lungs, Liuer, & celses of the braine, in the arteries: finally, in the verie habite of the bodie.

Obstruction caused of too much abundance of humors, doth grieue, oppresse, & sometime overcome the inward heat and spirites of life. Fulnes also proceeding from any obstruction: if the repletion be simple, or somewhat part-taking with that called *Cacochymia*: it choketh bodily strength, as for example: Abundance of blood in a wraistler: Flewme

in

in *Leucophlegmatica*. the third kind of dropſie: cruditie of humors in the other dropſie: abundance of choler in the yellow Jaundies. As often therefore, as the powers of nature are deſcried to be weak by the excrements: the ſpirites of life by the pulse, & breathing: the animall facultie by her proper functions; and by any of the foreſaide vehement cauſes preceeding: wee may determine the ſpirites of nature to be empaired. VVhen none of theſe cauſes haue gone before, and that yet the bodily ſtrength appeareth weake: then iudge them to be onely wronged or oppreſſed: Specially, if there do concurre ſignes of pure and ſimple repletion, or of great corruption of wicked humors: the cauſes greeuing and oppreſſing the ſpirites of nature being remoued: preſently their ſtrength is recovered, and they come againe vnto themſelues, except they be beaten downe with the continuance of their oppreſſion. Here therefore I make three ſteppes or degrees of naturall ſtrength weakely affected: either the ſame is a little thrown downe, or ouercharged, or thirdly, altogether weakened: whole particuler tokēs appeare by that which hath beene ſaid in the premiſſes.

There are ſome which only marke the pulses as an infallible ſigne, to iudge the bodily ſtrength by, which in trueth, is a great marke:

but

but yet not alone sufficiēt, being both doubtfull and vnconstant: and also because it is troubled with diuers outward things, is oftentimes changed. Againe, euacuation too abundant, affecteth not onely the vitall spirites, but also in like manner, the other faculties of nature: whose decay bringeth death as assuredly, as if the vitall power were extinguished: and therefore in euacuation it is requisite, as well to marke and obserue the other faculties of nature, as the vital powers. For if the patient be sicke of a vehement & continuall disease, as of *Lienteria*. i. a fluxe of the stomacke, or *Atrophia*. i. a kind of consumption, or *Marasmas*. i. the endes of the feuer Heetike: let him not bloud; albeit the pulse be mightie & full. And therefore I conclude this Chapter: affirming that we are in euacuation to consider the ablenes and strength, not of one only, but of all the thre aboue-said, running or flowing faculties of nature. Neither to consider of these alone, but also of the setled faculties, in which is contained the action of life.

To knowe by the greatnes of the disease, & the strength of the naturall powers: the quantitie of bloud that must be withdrawn. Chap. 14.

THe knowledge of the quantitie in euery remedie, is the hardest matter in al Phisicke,

sicke, and most of all troubleth the carefull and wise Phisition. And although to knowe the quantitie be but a coniecturall knowledge: yet the same is ioyned with lesse danger, and is more secure here than the knowledge of the quantitie in a purgatiue receit. The reason is, because wee may stoppe the blood when wee will, as *Galen* witnesseth 2. *de ration. virt. in acutis Commen. 11. & lib. de curandi rati. per sanguinis missio. Chap. 12.* But when a receit is inwardly taken, the same cannot be againe vntaken. Neither is it in our power, when it is once in the bellie, to take away any part thereof: or, if neede be, to adde vnto it: VVhich in bleeding wee may do: and therefore lesse danger is in this, than in the other. *Lib. 1. de curandi rati. per sanguinis missio.*

The quantitie of the blood that must be extracted, is knowen by the strength of the patient: and chiefly by his pulse. Therefore while he bleedeth, let the Phlebotomer or Phisition feele the Pulse with his hand: and suffer the blood to passe, according to the alteration of the same: especially, when any great euacuation (as euen vnto *Syncope*) is to be made: Lest it fall out vnwares, that death it selfe doe come in the place of swooning or fainting.

And except necessitie doe greatlye vrgē, it is best and safest to abstaine from
such

such plentifull euacuation after *Galens* coun-
cell, *lib. de Cura rat. per sang. missionem.*

Chap. 12.

If at any time, the powers of nature being
weake, the disease require some plentifull
bleeding: it is good to deuide the same, to
open a veine twise or thrise, and at eache
time to detract a little bloud, as ye haue part-
ly heard before: and as it shall be shewed
more at large hereafter. All sicknesse de-
cayeth the strength of nature, and so doth in
like manner that euacuation, which is vsed
to helpe nature. Lest therefore it might
seeme a verie hard dealing in this case, more
griuously to afflict one already afflicted,
and presently griued: the matter is so to be
ordered, as the substance of the disease may
be remoued, the forces of nature as little
damned as may be. Yea, it is a principall
poynt in a skilfull practitioner, so to worke,
that the euill may be remedied, and the pa-
tient brought in hope of a more profitable
recouerie for his health, than his former Phi-
sick hath been painful vnto him. Those hurts
which the naturall vertues sustaine, by a mo-
derate euacuation are but small: and these are
again quieted, when the euacuation is ac-
complished: for nature now freedde of those
hurtfull humors, wherewith shee was before
pressed down, recouereth her former strength,
shee

Shée renueth that which was drawen from the inward heat and spirites, and become almost the conquerour of the disease. Shée ouercometh wholly at length, yea, that which remained behind: partly by inward concoction, and partly by outward dissipation. If wise *Hippo* counselled to giue a small dyet to the sick patient, not fearing thereby more and more to weaken the strength of nature, which was otherwise but weake: let vs so esteeme of euacuation. But as in dyet, so in euacuation we must beware, lest the vertues of nature extremely enfeebled, do quite giue ouer, and be altogether extinguished: in regard whereof, we are circumspectly to foresee, how farre the patient can or may endure the same. For (in truth) a iust quantitie withdrawn without any great hurt, taketh away and cureth the disease. And this point of the iust quantitie is knowen, by a comparison of the disease, and of the strength of nature: for persons firme and strong may bleed as much as the sicknes requireth: They that are not so strong, may bleede lesse: they that are quite cast downe, are not to bleede at all.

And here a profitable question may be moued: whether naturall strength may so greatly be enfeebled, that it cannot or may not away with any euacuation be it neuer so little. VVee see many times, that in great
decay

of decayed strength, there fall out voluntarie euacuations, which do much good, and procure health. And againe, it seemeth, that to each diminution of strength (be the same great or smal) the quantitie of the euacuation may be proportionated accordingly. Neither is it credible, that an vnce or halfe an vnce of blood taken, can doe no great hurt to the naturall vertues, albeit they bee already much decayed. These matters seeme somewhat obscure: but that the question may be explained, and all ambiguities of auncient writers taken out of the way: we answer by distinction: affirming, that there are three degrees of quantitie in euacuation. The first degree is, when the same euacuation is thorow perfect and absolute, taking away either all, or the greatest part of the matter that causeth or continueth the disease. The second degree is a profitable euacuation, but not so perfect and absolute as the other: which taketh away onely some part of the sicknes, making that which remaineth more easie and tollerable than it was before. The third step is so small & little an euacuation, that the patient thereby is not one whit eased or relieved. Now to come to answer the former question: the naturall strength is seldome so greatly dejected, except the same be altogether ouercome & past all hope of recouerie, but that it may

L abide

abyde some little euacuation.

But hereof the auncient writers haue made no mention at all, being as it were, a matter altogether vnprofitable, seeing it is so little: not procuring reliefe to the sicke patient, but rather bringing more daunger to the naturall forces already decayed. And in fine, they haue decreede and set downe, that in this case no euacuation should be vfed. Therefore, the naturall powers being firme and strong, require an absolute and perfect euacuation: The same but meane and somewhat enfeebled; an euacuation more vnperfect and yet profitable: altogether decayed; they require none at all.

If the disease be verie vehement, so that it cannot, either at all, or well be cured without bleeding: it requireth necessarily abundant euacuation: The same but meane, and not so vehement; it requireth a more moderate bleeding: but yet the same greatly profitable, because the cure may afterwarde be accomplished with the more celeritie and safetie. If the disease be small, it requireth small euacuation or none at all.

Now let vs make comparison of the greatness of the disease, and firmenesse of the strength together. VVhen the strength is verie firme, and the disease meane, and not

verie

verie vehement & bleeding is not altogether necessarie, but onely profitable, in which ~~case~~ blood may be safely taken, and as much as the disease needeth. There is no feare to diminish a little the bodily forces; so as the roote of the disease may be pulled vp. For they are againe verie speedily and redily recovered.

V Vhen the strength is firme and the disease daungerous, replenishing the veines with an immoderate fuldesse, as it falleth out in the bodily constitution of wrestlers, and in feuers called *Synochi*: a plentiful euacuation is to be appointed, answerable to the greatnes of the disease. Yea, it profiteth (sayeth *Hippo* to bleede euen vnto *Syncope*, If the patient maye abide it: in which place *Hippocrates* meaneth not that fowning which commeth of feare or of cowardlinesse, or of sharpnesse of humors, pricking and prouoking the mouth of the stomacke: but onely that which commeth of abundant euacuation. For so in an extreame disease *Hippo.* appointed as a rule and iust order of euacuation. And this defect of minde and strength is called *Lipothymia*, or *Liposychia*: in which the partie speaketh, heareth, seeth, and knoweth them that are present.

Nowe, *Syncope*, is (as it were) a suddaine decay of all naturall strength, as in the falling sicknes: in the which the patient neither seeth, heareth, or doth any outwarde action. *Lipothymia* is more easie than *Syncope*, and accustomably goeth before the same. In the foresaide affectes therefore, wee let blood: euen vntil *Lipothymia* come vpon vs: and yet rashly or without iudgement.

Now when the powers of nature begin to quai'e and giue ouer through euacuation, we must stay the blood. Neither are wee to proceede so farre as vnto *Syncope*: for then the partie escapeth but dangerously: albeit the strength of the body be reasonably firme. In consideration whereof, wee are to withdrawe the abounding humor, as the bodily forces will permit. And whensoever they are wasted, albeit some of the offending humor remaine still behinde: yet wee are presently to desist: and this shalt thou most certainly vnderstand, if thou diligently marke and obserue the Pulses, how they alter from great to little: from equall to vnequall: from strong to weake: from apparant to obscure: and by marking how the force of the fluxe of blood beginneth to relent, and the patient to waxe weake.

That practitioner which setteth by his credite, and will aroide ill speeches, must
neuer

neuer through bleeding, bring his Patient to *Syncope* : because the same being, as it were, an image of death, terrifieth the standers by, and putteth the Patient in a great hazarde of his lyfe. Yea, and it is better to let the patient still remaine in griefe, than to take away with the disease, life it selfe.

And hetherto we haue shewed, what is to bee done, touching the quantitie that must be withdrawen, when the powers of nature are firme and constanr.

If the disease be but meane, and the bodily powers but indifferent, the euacuation must be moderated, which may remoue the whole cause of the sicknesse with little or small hurt to the strength of nature.

VVhich albeit, it be but a small and moderate bleeding: yet the same is verie profitable, as ye haue heard before. If a great sicknesse concurre with strength already decayed, and that the same also require some large euacuation: yet because the powers of nature cannot tollerate it, the same must not be done wholly at one time: but by iteration, as yee haue beene tolde: lest wee take away both the disease and the partie diseased: Natures forces being quite overthrowen, albeit the disease so require: yet the bodie can permit little or no euacuation:

for it is vnprofitable and superfluous, not bringing any commodity, but discommoditie and perturbation to the sicke. Therefore in this case this must be the practise: moderately and often to giue the patient meates of good iuice and nourishment, to confirm, strengthen, and recouer nature: and such as haue some vertue in them a *proprietas* against the present infirmitie, & may redresse the inward corruption of humors. And when thus the naturall forces shall be recovered, *Phlebotomy* may succeed. And this practise is much vsed in continual and long sicknesses, in sharp diseases, called *morbi acuti*: this long stay were doubtfull and dangerous.

An obseruation of things present & past, and also a foresight of things future: needful & necessarie to the further knowledge of the quantitie of blood that must be taken. Chap. 15.

OBseruations of euident causes, touching the greatnes of the disease & constancy of naturall forces, doth greatly further our knowledge in this behalfe. Of which euident causes, three of them are inward and bred in our selues, as namely, the temperament, the complexion, & the age: & three of them are outward and accidentall: namely, the constitution of the aire, according to the seuerall seasons of the year, the situation of the countrie & state of the heauens. All which are included

cluded in one cause, as grounded al upon one reason: secondly, former euacuatiōs, ether staid or immoderately flowing: thirdly custome & order in diet & life, or kind of euacuatiōs proceeding. By knowledge of these forepassed causes, we may attaine to the vnderstanding of the strength both of nature & of the disease: & so consequently of the quantity that wee must bleed: & albeit that the causes present & future haue not yet altered, either the disease, or strength of nature: yet for as much as they begin to dissolue some humours frō the body, & to wast the strength of nature, they haue some moment in this practise. For what these causes present or past can doo, ye haue heard in the 8. & 14. chap. to the which I refer you cōcerning the periculars: here onely being contented to reckon the vp by name .i. the tēperamēt: the state of the body: the age: the countrie: the time of the year: the disposition of the aire & sky: voluntary euacuatiōs, custom, & the rest, as appeareth ca. 8. It is the part, & property of a wise & skilful phisition, to consider not only the state present of the natural vertues: but also to foresee what will be their state in time to come after bleeding. The natural powers after euacuation, are so to be conserued, as that the same may be able afterwarde to take other helps & continue out the prolixity of a cōtinuing disease.

Yea, we must retaine alwaies some blood for future fits, and courses of the disease which are yet to come. Left afterwards vrged ther-vnto, wee begin vnfitly, and out of due time againe to nourish the same. And this chiefly is to be done in bleeding, for corrupted and putrifying feuers, whose putrification & obstruction is not taken away by bleeding: but the putrification is afterwarde the better overcome, by the strong force of nature, when by opening of a veine, shee is somewhat relieved. Therefore to this purpose alwaies some blood must be left for natures preservation, as *Galen* councelleth. *lib 11. method. cap. 14.*

We may coniecture the future strength of the patient, partly by the present causes, which are also afterwards like to continue, & partly by accidents, which may happen contrary to our opiniō. Among present causes these are the chiefe: the state of the heavens, & the order of mans life. If the constitution of the aire hath bene hot & dry, & is like so to continue, the bleeding must be lesse, than if wee suppose a cold aire to ensue. Again if we perceauē, that the patient will liue sparingly, & tēperatly, either for want of appetite, or because the disease will not suffer him to feed: as in *Augina the Quincie*: which shutteth vp the lawes: we are to take lesse blood, than when

whē we see he wil liue more frankly and liberallie. In these cases we must still reserue some blood, as natures treasure, to helpe at a pinch in time of neede.

Suddaine accidentes and vnlooked for which greatly enfeeble natural strength, are these, great paine and ach, watchinges voluntarie euacuations; and chiefly *Syncope*, into the which many do fall, beeing not accustomed to bleede at the first opening of a veine, either because they are weake of nature, or stricken with some great feare, or because the mouth of the stomake filled with bitter choler, is becom very insensible and weake. When we suppose that some of these matters wil fall out: albeit the strength be firme, yet no blood at all, or very litle is to be withdrawen: except by art wee haue preuented the former accidents. It is (I say) great wisdom to foresee a farre off, and to beware of such suddaine and vnlooked for accidents.

This we will manifest by an example. Let the pacient be of a sanguine complexion, of body, thicke and well set, of a flourishing age, that hath long time led a lecherous life, feeding plentifully of good meats, and that hath omitted his accustomed exercises, and liued at home idely: in whom also accustomed eruptions of blood, out of the nose, belly,

belly or Hemorrhoids are staied: so that by concurrence of these causes, the body hath greatly encreased or waxed, & that the large veines through repletion, are greatly filled. Whē soever a strong ague, or great inflammation, shall possesse such a patient, presently he must be let blood, and that plentifully: Both the greatnes of the disease, and of the cause requiring the same. Moreover this is confirmed by obseruation of thinges past, if present causes agree to these, namely, that there bee a fit temperature of aire, by occasion of the countrie, season of the year, and the present state of the weather, moderately cold and moist: and that the patient bee apt to euacuation: also that the sickness bee not like to continue long after, neither apparant signification of an excessively hot temperature of aire to come, no threatning of future paine, or of abstinence, watchinges, voluntarie euacuations: If all these thus agree together, who may doubt but that a large euacuation may in this case bee made: And none at all, when the contraryes doo appeare. Sometime these obseruations, are mingled among themselves, and contrary to themselves: In which confusion a wise iudgement is needfull, by comparison of them to prescribe the iust quantitie of euacuation.

The

The consideration of passed matters many times perswade a plentiful bleeding, which the obseruation of things present by and by taketh away: As for example, if the Patient laying aside his accustomed exercise, giue himselfe to pleasure and idlenes, stuffing himselfe with meates, and hauing some notable euacuation staid in him: but his body is waxed fat, white of colour, loose, open, soft, full of thin iuice, and that it be Summer, a hot & dry country, a hot & dry constitution of weather without stormes: In this case, let not blood at all, for sufficient is already euacuated from such a body of it selfe, and that not obscurely, but apparantly. In this foresaid constitution, thou maist detract a little blood, if it bee winter, in a cold country, and the winde standing at North: and in this mixture of things, thou must marke not onely the multitude of the obseruations, but the force of them: Because one many times exceedeth all the rest in power and sway, and he that can neither by art, experience, nor sound iudgement define the quantity of euacuation, according to the aduise of *Hippocrates*, let him rather euacuate lesse, than more than needeth.

In this place albeit somewhat hath beene spoken before to the same purpose, *cap. 9. Fig. 7.* It may be profitably demaunded, whether being with child, be to be accounted among these

these obseruations heere handled, shewe of truth, and some probability may be alleaged, that when women with childe are grieuouſly sicke, we are not to let them blood, because of the young that is in the wombe. This is also defended by *Hippocrates* saying, *Mulier in utero gestans abortit, incisa vena: idque magis, si fetus antior fuerit*, that is, A woman with child is deliuered before her time if shee bee let blood, specially if the young be much increased, and growen in the wombe. But this of *Hippocrates* is not alwaies true, as neither that which hee setteth downe a little before, *Mulierem in utero gerentem acuto morbo corripit: Lethale est*. That is, it is deadly for a woman with child to be taken with a sharpe disease. For seeing a purgation made of wicked and venemous simples, standeth with greater danger of the childe than opening of a veyne, and that *Hippocrates* graunteth that women with child vexed with a disease caused of corruption of ill humors, may bee purged in the moneths betweene the third and the eighth moneth; truly with much more safety may we let those blood, being grieued with any sicknes caused of Repletion. And if in the middle time of the going with childe, the same may bee done: Much rather in the beginning when the blood more aboundeth, and the yong needeth lesse nourishment.

Again,

Againe, if women being with child, nature of her selfe oftentimes attempteth euacuation of that which is superfluous (with great profit) out of the nose, by the hemorrhoids & belly, and that sometime the Termes flowe healthfully at times appointed: why vpon great necessity may we not imitate nature in our Art? Yea, many women bring vntimely fruit except about the fourth moneth a veyne be opened, the young fruit beeing overcome with plenitude of the Patient, neither onely in fulnes, but without the same a veyn is opened in the arme of a woman with child, when need constraineth, as in a Pluresie, or other vehement inflammation. It is dangerous in deede to open any of the lower veynes in women with child, because the fluxe turned downewarde, the termes would flowe, and so the fruit in the wombe bee deiected and cast downe. A veyne is opened very seldome in the eighth or ninth moneth without causing of vntimely birth, forasmuch as then a woman of euery light cause receiueth hurt, and is deliuered before her time, through the weaknes and slipperines of the wombe. In this case *Cornelius Celsus* only considered the greatnes of the disease, and ablenes of the strength. Olde Physicians (saith hee) were of opinion that the first and latter age could not brooke bleeding, and that a woman with child cured
by

by *Phlebotomy* should bring forth vntimely fruit: yet experience prooued afterward that none of these were perpetuall but that better obseruations wer to be considered, which the Phisition is to remember: For the matter is not great what the age bee, or what a woman beareth in hir wombe, but what her strength is: a fierce childe: a strong olde man: a lusty sanguine woman with child, may safely bleede. And thus you see howe a great belly in a woman may be an obseruation concerning the quantity of blood that must bee withdrawn.

Another obseruation to finde out the iust quantite, is to marke the alteration of colour in the blood. So iudged *Hippocrates* in *Plenritide secundo de ratione virtus in acutis Commen. 10.* where hee counselleth to let blood if the pame in a Pluresie ascend to the arme, or the Paps so long till the blood came forth in colour more red or more yeallow: or for pure and red blood, blacke and blewe, which both doo happen. For blood in an inflammation, differeth in colour from the naturall blood, as more heated and inflamed. If the naturall blood before in the body were crude and vndigested blood, that which is in the inflamed place, is a great deale redder and yeallower, if it were before redde through adustion, it becommeth now more swart and blacke: But if
the

the Patient faint or faile, before the blood alter in colour, stay not then for the mutation or change thereof. Finally the plenitude in the body admonisheth vs of the quantity more or lesse, and thus we conclude, touching the knowledge of the quantity: how much must be taken.

Of the time and seasons of the sicknesse, of the yeare, of the daie, and houre of the daie, when a man is to bleede, or not to bleede.

Chap. 16.

ALthough it hath beene declared, that we are not to let blood in a season of the yeare too hot or too colde. Yet in this Chapter, wee purpose more exactly to discusse, what time of the sicknesse, and what day, the same is to bee done, *Avicen, in quarta primi cap. 20.* saith that for preservation, a veyne is most safely opened, when the disease is not come or yet present, disallowing altogether of this practise in the beginning of sicknesse: and his reasons to prooue it are these.

In the beginning of a sicknesse (saith he) it attenuateth the humors and causeth them to flow throughout all the bodie: mingling the bad Humors with the good blood.

These

These wordes of *Anicen* are neither true nor agreeable to *Hippocrates*, & *Galen*, *Hypoc. 2. Aphorif. Aphorif. 29.* writeth, that at the beginning of sickenes. If any matter be to be remoued, the same ought then to be done accordingly: and when the euils are in their state, then to giue them rest. *Galen* in the *Commen.* saith, that bleeding and purging may be vsed at the beginning, but neither of them, *Morbo Consistenti*, that is, in the state of the disease: whereof in the *Aphorif.* following *Hippocrates* rendreth a reason: at the first and last (saith he) things are more weake, than in the middle estate: for then all things are most firme and strong. Againe, why he should stay for concoction in bleeding, I see no reason, for as much as bloud of his owne nature is alwaies concocted, and a veyne beeing opened it floweth out easily of his owne accorde. Againe, where *Anicen* in his reasons saith, that by bleeding in the beginning, that corrupted bloud is not euacuated that should be, which afterward puts still the Patient to more pain, so that wee are forced oftentimes, after wee haue let bloud in the beginning of a sicknes, to take medicines putposely to assuage dolors and paine: I perceiue not how bleeding can take the good and leaue the bad, seeing nature alwaies reserueth to it selfe as a friend good humors, & good bloud, reiecting those
that

that are naught and vnprofitable. Also when he saith it attenuateth the humors, hee is contrary to himselfe, for in *quarta primi, cap. 4.* he iudgeth rather bleeding to make humors thicke, than thin: The bloud and spirits themselues which attenuate the humors by bleeding being withdrawn. Againe, this is wonderfull, that when the state of the disease is past, and the Patient past danger, that he would haue then the miserable Patient with a new wound and cutting of a veyne againe tormented.

If any thinke *Anicen* to be blameles, as being of this iudgement, that a veyne is to be opened when nature hath attempted *Crisis*, that is, the iudgement of the disease: which falleth out to bee vnperfect and litle, not able to doo the feat and accomplish the whole force, neither doth this defende him: For by what reason would yee haue bleeding to euacuate the matter left behind of an vnperfect *Crisis*: The naturall vertue being made so weake by that time with continuall contending and struiuing with the disease: that it can doo no good or very litle in the cure, and especially when the rest of that matter is daily vsed to be easily euacuated by purgations. In sharp & dangerous sicknesses therfore, euery one seeth here *Anicens* error: for in these sharp, vehement, & continuall diseases, we must bleede or be purged the first day: yea, stay in these, is very dangerous, as *Hyppo.* saith,

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4. Apheris.

4. *Aphorif. Aphorif. 10.* If *Anicen* meant it of *Morbi salubres*. i. recouerable diseases: in these truly, neither first nor last, nor at any time are we to bleed: for then most vsuany we let bloud when a disease is vehement and dangerous.

The opinion of other some in this place is to be laughed at, who thinketh that *Anicen* admonisheth not to bleed at the beginning in sicknesses not dangerous, as in a tertian, because nature is terrefied by the newnes and sodainnes of the disease: and these make, or imagine nature to be a thing indued with knowledge, or an vnderstanding and knowing faculty: which is not so. But if nature be made afraide in sicknesses not perillous, how much more will she be afraide in dangerous diseases, in which notwithstanding, wee hasten to let bloud euén at the very first. These matters therefore are full of error.

Let this therefore bee the conclusion, that wee must bleed in the beginning of sicknesses. VVherevpon *Galen* counselleth (the disease being come) to open a veyne, *lib. de Curand. ratio per sang. missio. cap. 9. & cap. 12.* If (saith hee) there bee repletion of hot boyling bloud, whereby a strong ague is inflamed: presently euacuat, yea, euén vnto sowning: yet still regarding the strength of nature. And this is his aduise *prim. Aphorif. Aphorif. 23.* VVhat diseases so euer are caused of plenitude, or other corruption of humors in the veynes; they are

are at the beginning to bee cured by bleeding: for by this meanes, the disease likely to grow is kept backe, and so much as is already bred, nature will easily subdue: Thus hot Agues before they are yet inflamed with heate of boyling blood, or by vehement putrifaction, are & may bee cured: Also inward inflammations at the first, as long as the flowing humor cleaueth not to the member, but followeth the blood may be cured. The said humor issuing forth with the blood, when a veyne is once opened, strength at the beginning is firme and constant in the Patient, almost like vnto vs that are well in health: If therefore at any time bleeding bee needefull, the same may best be done at the beginning: he that in fulnes of blood, or fluxe of matter, will stay from bleeding, and vse other helps, in a peruerse order of healing, he doubleth the grieve, and troubleth the forces of nature more than is conuenient: Yea, let the veyne so timely bee opened, as the stomacke and first veynes be not first stuffed, with either corruption or cruditie of humors or meats vndigested.

Thus you haue heard the former words of *Auicenn* to be erronious, howsoeuer certain labor to saue them vp: yea, & *Auicenn* seemeth to vnderstand his owne saying, not only of particuler diseases in the members: but also of all other diseases. For afterwards speaking of all Feuers, and especially of *Febris sanguinea*, Feuers cau-

sed of bloud, hee counselleth in them not to let
bloud abundantly: except there haue gone
before concoction, and concerning this reason,
that humors are lessened by bleeding, it cannot
be so, for yee haue already heard, that both be-
fore bleeding and after, there is retained in the
body one and the selfe same proportion of hu-
mors. If any difference or mutation happen,
seeing the thin humor issueth forth with the
greatest speed, and the thick humor but slow:
it is more likely, and probable, that opening of a
veyne should rather make the bloud and hu-
mors thicke than thin. Againe, whereas he saith
in his reason that the humors thereby are agita-
ted, moued, and driuen through the whole bo-
dy: how should there bee this agitation of hu-
mors, seeing rather this practise abateth the
multitude of them which was before the cause
of perturbation & sickenes. In reason all things
now should become farre more quiet than be-
fore. V Whereas he saith the ill bloud is mixt in
the veynes with the good, what inconuenience
commeth thereof if a veyne bee opened? then
no doubt the bad must passe forth with the
good. Put the case there bee a strong or vehe-
ment sickenes caused of abundance of bloud
onely, as are both the *Synochi* Feuers, as is the
putrified feuer, caused through plenitude, as are
Angina, *Pleurisis*, *Peripneumonia*, also inflam-
mations of the Liuer and other partes. In these
if

if they bee great and dangerous through much abundance of blood, who will not presently open a veyne? who will not while strength serueth, take away that fulnes which bringeth a disease and danger of death? Hereupon in *Synocha* presently at the first, we hasten to let blood euen till the Patient faint, and before the matter putrifie. But *Aniscen* in a sanguine feuer at the first letteth blood sparingly, & more plentifully afterwarde, when signes of concoction appeare. But what concoction doth hee looke for of good blood, and already well concocted, and offending onely in quantity? In these sanguine feuers therefore, euen as in very sharpe sickenneses, either to put off, or to stay bleeding it is very ill, as *Hippocrates* saith, if the disease be not so sharpe or vehement, yet let blood at the beginning, according to the proportion of the fulnes. If wee should in these stay with *Aniscen*, till concoction (the beginning and state of the disease) be past: wee should suffer the disease to grow & increase, and cause for want of skill the Patient to bee cruelly handled and intreated without helpe of Physicke, which wee may administer, if the disease be deadly, it will neuer be brought to concoction: If it be doubtfull, or recoverable called *Morbus salutaris* (as ye haue heard) after the state in the declination, & when the Patient is past daunger, what profit doth *Phlebotomy* then bring? as ye haue heard before.

Nature by concoction, separateth the ill humors from the good: these to conseruation: those to expulsion. This she doth either by her self, or by the help of Physick. But opening of a veine, indifferently without choice, euacuath al humors. VVherefore then in bleeding, shall wee tarrie for this concoctiō & diuision of humors? as for example: In apostumations, if the corrupted blood be made matter or filth, it is not then taken away by bleeding, but by some other meanes. So in feuers, whose matter is contained in the veines: when the humor is concoct & diuided, we vse not to withdraw the same by bleeding; but by some other practise in Physick: in which case, by that time that concoction is accomplished, wee shall haue nature to helpe vs, who of her selfe, indeuoureth to expell humors concocted & diuided, the bad from the good. And if nowe after concoction & separation of humors we open a veine, we do not onely euacuat the bad, but also the good: and that which is worse; those humors which are separated by nature, we shal mingle with the pure blood, defiling the same, & so both confound all, & disturb the good worke of nature her self. Therefore, when the apparant signes of concoction shall appeare, the cure must be done, not any more by opening of a veine, but either by purgation, or some other help, to turne the matter aside some other way, except (which sometime chanceth)

chanceth) there appeare signes of cruditie.

In feuers: when the plenitude is abated, and things which putrified are concocted, we must assay to euacuat them by siege, vrine or sweat. Those things which are rotten and turned to filth, in a Plurisie or *Peripneumonia*, we euacuat by spitting. Matter putrified in the Liuer, passeth through the hollowe veine by the belly. Corruption in the raines & in *Gibba*, passeth by vrine: and so eche putrified matter, accordingly out of eeh member, is to be purged by the next places & fittest passages.

If by feare, slouth, or any other occasion, opening of a veine haue not bin put in vre in the beginning of a sicknes: the same may be don at any time: yea, the twentieth day after, if the signes of fulnes & cruditie still continue, and that the bodily strength be answerable & not decayed through prolixitie of sicknes. But here is the doubt, that oft the matter of the disease is digested, or the strength of nature wasted.

But *Auicens* opinion, that in the beginning of a disease, a veine is not to be opened: seemeth to haue ground out of *Galen. Chap. 87. Artis Medicinalis & Comment. 22. lib. 4. Aphorismorum*: saying, The Phisition is the minister of Nature: But Nature her selfe, neuer in the beginning of a disease, when the humors are yet altogether rawe and vnconcocted, appointeth any euacuation.

therefore, neither must the Phisition, at the first: when all things are yet vñ concocted, attempt any euacuation, and so much the lesse, because crude and yndigested matter not yelding to euacuation: stirreth vp grievous accídets in the bodie. *Galen. li. 1. Aphorif. Cōmen. 22*

Again, say some (in *Anicēns*) defence, it may be that in the beginning of a sicknes: opening of a veine maketh the superfluities of the body thinne: so that they may flowe & runne thoroughout the whole body, and so be mingled with the good blood, wherby it fortuneth that the same is not extracted, which necessitie requireth to be expelled. VVhereby also it happeneth further, that the patient must be let blood againe, sometime euen the same day, and sometime the day after, which too much enfeebleth the powers of the bodie. And thus it is contended, partly by reason, partly by authoritie, in the behalfe of *Anicēns*. And surely, if the words of *Anicēns* might be restringed, that verie seldome, and onely in the case limited, a veine is not to be opened at the beginning of sicknes: it may wel stand to sense & reason: but *Fernelius* & others gather, that *Anicēns* words were spoken more generally, than that he can by this speciall case only, be defended. And because the matter is controuerted, as ye see, I haue set downe the reasons brought both against *Anicēns*, and for him. Leaving the depth
of

of the controuersie, to be examined & discided by others, rather as yet inclining for my part: (for ought that I can see) to the aduersarie opinion to *Auicenns*, till affirming it to be more vial a great deale, to open a veine in the beginning of sicknes, than to stay a longer time.

And that this assertion may the rather appeare to be true: I will set downe certeine rules whereby it may truely be manifested & approued so by science and experience. First, when wicked humors greatly swell, being (as it were) excited & stirred vp through repletion of their owne accord: they perswade to euacuation at the beginning of the disease, when the humors are not yet concoct. For otherwise, the vnconstant humor, mouing from place to place, and frō member to member without order, might make stay at some principall member, to the great hurt of the patient. It happeneth in deede but seldome, that the humors are moueable, & flowing from one part to another: for cōmonly they remaine firme & stable in one place.

Secondly, a veine is to be opened in the beginning of a disease: when quantitie of matter aboundeth in the veines, as *Galen* saith, *Com. 29. li. 2. Aphoris.* Yea, in this case also sometime a purgation is taken, that nature may easily concoct & ouercome the residue of the matter of the disease, when the same is lessened by art.

Thirdly, when the disease is great & vehement,

ment, as in verie dolorous apostumations: albeit there be not in the bodie much matter antecedent: yet the humor that is, is to be repelled, lest the apostumation open and breake sooner than is conuenient. To auoid therefore these great & euil accidents: by & by, at the beginning incision is to be made: which *Galen* teacheth, *li. 13. Cap. 20. Method. Medend.* in these words. In such affects (saith he) a veine must be opened at the beginning; so that none of those things hinder, which we haue spoken of, either the abundance of rawe humors: childish yeares: the time of the yeare: the temperature of the countrey, too hote or too cold. For not only in sharp diseases & inflammations, but also in wounds & bruises of particular parts; specially being principall: blood is to be taken from the contrarie part, to repell the inflammation: albeit the blood be but little in quantitie.

In the beginning of sharpe diseases called *morbi acuti*, or *peracuti*: opening of a veine is passing good. For the better vnderstanding whereof, you must remember, that a sharp disease is two-fold: either exquisite & thoroughly vehement, passing not the fourth daye, which is called of Physicians *Malus peracutus. i.* thoroughly sharp: and of some *perperacutus*, imitating barbarous authors in Phisick. The other not exquisite or thoroughly sharpe & vehement, whose greatest force wilbe in the seuenth day.

These

These diseases being but short, & at their extreame fits in few daies, without any truce, presently at the beginning, these are to be cured. And because they proceed chiefly of hot humours, namely, of bloud and yellow choler, therefore specially they require bleeding. Whereupon *Hippo. lib. 4. writeth. De vict. ratione in morbis acutis. Aphoris. 19. In acutis morbis sanguinem detrahes: si vehemens morbus videatur, florueritque agrotanti ætas viriū & affuerit robur.* In sharpe diseases withdraw bloud, if the disease seeme vehement, if the age of the patient be flourishing, and that the naturall forces be firme and strong. *Schola salerni* hath these verses of this very matter.

*Principio minnas in acutis perperacutis.
Ætatis media multum de sanguine tolle,
Sit puer atque senex, tollet uterque parum.
Ver tollat duplum, reliquum tempus tibi
simplum.*

In sicknes sharpe let blood with speed.
take much from men of middle age.
Not so when child or old men bleede:
the spring requires the aduantage.

As there is regard to bee had of generall times, so there is also of perticular daies and times, in the which diseases come, speciallic in those diseases, which haue by course

course an appointed and set time of intermission and remission. For euacuation is not to be made when the disease is now fierce, but when the same is asswaged. Feue^r, and especially those that are called intermittents, discontinuing agues, euē naturally at the beginning and their first inuasion, cause vomits: and at the declining, sweats. At which times wee may by art prouoke these, but in no case vse putging or bleeding. In the time of the fit likewise wee must refraine from these, as things which nature then can not brooke. If such accidents of bleeding, or of siege come, they are but accidental, and are caused only of the heat and force of the disease. No euacuation can be done safely in such fits, seeing they do too exceedingly hurt the powers of nature. Also when the humours do so boile with heat, that they are perturbed & mingled together, there can not be made by practise of art any iust diuision of the said humours. And if it chaunce that the hurtful matter of the disease, be inflamed without the greater veines, & that in a fit, a veine be opened: it is to be feared, least presently the same corrupted matter passe into the empty veines, & so of an intermitting feuer, wil come a continuall. Whereas a veine opened in the most quiet time of a disease, troubleth not nature, but without any feare of an inflammation, taketh the plenitude out of the greater
veines.

veines. The greatest time of quietnes, is the time in the middle, betweene the remission & intermissiō of the disease. If the time between the fits bee much, it is an easy matter to perceiue the said middle time. If the time bee but little, then is it far more hard to discerne the same. Because many times no leasure can bee graunted either before or after bleeding, by reason of the swift courses of fits, to nourish the party. Thus you see *Phlebotomy* is not to be practised in the day of the fit of any sicknes, which in Latine is called *Crisis*, or *dies Criticus*, in the which day, neither bleeding, nor any other euacuation is to be attēpted, lest the matter should be drawn from that place, wherevnto nature hath driuen it, to be rid or dispatched thereof: and therefore likewise neither in the fit it selfe ought the same to bee done. Excellently therefore did *Galen* giue in charge, *Comment. 29. lib. 2. Aphorif.* that in time of the fit, neither bleeding nor purging ought to bee vsed, because then the concoctiō of the disease is chiefly wrought. Which is farre better accomplished in quietnes and rest, then in motion or disturbance. For what respect the state hath to the whole disease: that comparison hath the fit to the daies of intermission. As therefore in the state of a disease no euacuation is to bee vsed: so neither in time of the fit.

Againe, it may profitablie here bee admonished

nished, notwithstanding the premisses: that bleeding is not presently to be vsed at the very beginning of a disease, whē we iudge the *Crisis* or iudgement of the sicknes to bee yet far off. For blood beeing the foundation of inward heat, wherwith, the same is vpholden: (natural heat beeing ingendred of blood, as of a materiall cause,) If blood should bee detracted at the beginning of a disease, the natural heat would bee diminished, which should concoct the materiall cause of the sicknes. Whereby further it commeth to passe, that the disease is longer time protracted, and the forces of nature enfeebled, through which two, namely the continuance of the disease, and imbecillitie of nature: great feare of death commeth in the end: and this is the case, wherein *Auicennas* former opinion may stand true.

There is therefore no prescribed day for certaine, appointed to let blood in. Whereupon *Galen* tooke occasion to deride those: *lib. de curand. ratio. per sang. missio. cap. 12.* which from the 2. houre of the day to the 5. or 6. houre onely did let blood, and at none other time. And *Galen* witnesseth of himselfe, that he did let blood at all times without any daunger, yea euen in the night. And *9. method. Cap. 5.* hee affirmeth it best, which hee also himselfe obserued, to mark not the number of the daies, but onely the strength of the Patient.

Patient, because by experience wee haue prooued that not onely the sixt or seuenth daies, but also in the daies following the sixt or seuenth, a veine may bee opened. But because as *Galen* witnesseth, *Libro de Curand. ratio. per sanguin. missionem. Capit. 20.* in diuers diseases through continuance of time, the strength of nature is greatlie abated: Therefore the occasion of letting of blood is not omitted for the number of the daies, but for that the naturall strength is wasted: So that if the vertues of the bodie seem to be consumed the second day from the beginning of a disease: euen then wee forbear opening of a veine. And hethertoo the wordes of *Galen*.

Now in diseases which are cured by bleeding when they are present, or propelled being but future: if they grant leisure so that a choice of an houre to bleede in May bee made: in this case (I say) the fore noone houre is better then the after noone. For from the rysing of the Sunne the blood is quickened, reuiued, and beareth rule in the body: yea in that time of the day it becommeth thin, cleere, & apt to flow. Let not the patient sleepe nor slumber in that houre, wherein he is to bleed, but at lest let him be awake a whole houre before: see also that he haue wel digested the meat he did eate the day before: so that the excrements be descended, & that the body haue done his accustomed dutie both

both by siege & by vrine. And these must most principally be done, when a great veine is to be opened. And they are not so greatly to be obserued, when we withdraw blood, from the smaller veines: from whence the blood floweth but slowly. If the patient be in health, let him do some work, or goe first an houre about his businesse in his shop, warehouse, market, schole, or other place: as his vocation is: and then bleed; choosng out for the purpose the quietest houre that may be: *vide Auicenn 4. prim cap. 20.* And thus much of the time of the sicknes, and of the day.

Of the time of the yeare best to bleed in, it is agreed generally, the same to bee the beginning of the spring, which is a temperat time, neither too hot, nor too cold. Therefore *Hippo. 7. Aphorif. 54.* writeth: *Quibus a venis sanguine mittere confert: iis vere secare venā oportet.* Those that must haue a veine opened, must haue the same done in the spring. And *Galen lib. de Cura, ratio. per sang. missio.* saith: that hee by letting blood in the beginning of the spring, cured many of the gour, and other diseases.

There are 3. moneths belonging specially to the Mone (as some say. viz. May, April, September: in which there are also certaine daies which are not good to bleed in, as some authors (not contemptible in mine opinion) do
affirme:

affirme: namely, the first of May, and the thirtieth of the two other moneths. This for all these sayings of wise Clarkes, is not alwaies so found: for euen in these daies, if other things agree, a veyne may be opened, which I my selfe haue done without hurt insuing. In like case that is false, which is set downe by some, that the eating of Goose on any the foresaide three daies, is perillous: which seemeth to bee taken from the custome and superstition of the Iews. Men in their flourishing yeares of a sanguine complexion, may bleede euery moneth of the yeare: if necessity vrge by occasion of great dangerous sickenes, and that bloud abound in the veynes. For in these, substance of humors is not easily wasted or dispersed abroad. But for conseruation of health: bleeding is best vsed, in one of these three moneths, *April, May, September*. And yet not all alike, for in *April*, and *May*, the Lyuer veyne is to bee opened for abundance of bloud in the spring: and in *September* the veyne of the Milt, because in harvest Melancholly aboundeth more than any other humor, and I would wish persons greatly subiect to diseases, caused of fulnes of bloud, and that are cured by bleeding, to bleed these two times in the yeare: that is to say, from the Lyuer veyne on the right arme in the spring, and from the veyne of the Milt on the left arme in *September*. Those that thinke that if they bee

Let bloud one yeare they must be so euery yere:
 Shall hereafter in the twenty foure Chapter bee
 shewed to the contrary: for as one swallowe
 makes not the spring: So Phlebotomy practised
 once or twise, doth not import an annuall blee-
 ding, and so we must iudge of boxing. The ver-
 ses of *Schola Salerni*, concerning these matters
 insue.

*Tres insunt istis Maius, September, Aprilis.
 Et sunt Lunares, sunt velut hydra, dies.
 Prima dies primi postremaque posteriorum,
 Nec sanguis minui, nec carnibus anseris uti.*

*Sit senium atq; iuuenta licet, si sanguis abundat,
 Omni mense probe, confert incisio vena.*

*Hi sunt tres menses: Maius, September, Aprilis:
 In quibus eminuas, ut longo tempore viuas.*

In May, September, and Aprill,
 There be three daies are very ill:
 The first in May, of rest the last,
 In which ne bleede, nor of Goose tast.

Though old or young, if bloud abound:
 In each moneth bleede, this rule is found.
 But three be best, and farre excell,
 September, May, and eke Aprill.

A Table of the things specified in this Chapter following.

An accident appertaining to the consideration of bloudletting in general: is the time: which is of the

yeare, whereof looke Cap. 8. Fig. 13. and in this present Chapter.

Of the day or houre, for in

Persons not sicke, for the Preservative intention, the morning is best, an houre or two after sleepe, when the body is disturbed by siege, by vrine.

their fit vpon them, who are to bleede when the fit of the feuer is off.

Sicke and hauing

or not hauing fits by intermission, as in continuall feuers and inflammations, who may bleede presently at any houre of the day or night, if the disease be vehement and daungerous, and the bodilie strength firme: but if the disease vrge not, choose (as for persons not sick) the morning houre.

Of Astrologicall obseruation in bleeding, and of
an other obseruation neerely annexed vnto the
same: shewing what members, and parts of the
bodie are to bee opened according to the severall
seasons of the year.

Astrologicall obseruation of the newe and
full of the Moone, and other considerati-
ons heere set downe as follow, are to bee regar-
ded in light and small sickeneses: but not so, if
the same bee vehement and dangerous. For the
heauenly causes are very farre off, neither did
Hippocrates make reckoning of them 4. *Apho-
rif. Apherif. 10.* The first day wee must helpe
(saith he) in sharpe diseases. And *Galen de Cura.
ratio per sanguin. missio. cap. 12.* saith: that those
persons are presently to be euacuated, in whom
appeareth abundance of hot blood, before the
same begot to some principall part (as ye heard
before) so that these things are not to be obser-
ued in a vehemēt pluresie: In *Angina* the quin-
cie; In immoderat flux of blood: In great pleni-
tude of the vessels: neither in discōtinuing agues
or feuers that come by fits. In which the time
of rest, remission, & stay, is farre better than the
morning time: In which wee let blood at what
houre so euer it be, of the night or the day: if the
fit be off, and other things answerable. There-
fore I say in these, we are not strictly to obserue
these

these rules Astrologicall: obserue them, as matters of some force, in healthfull Patients, which bleede onely for preseruatiō, and in light and small infirmities: if then it happen that thou do bleede.

To come to these Astrologicall obseruations we are not to let bloud in the new or full of the moone: nor else except the moone bee in these signes ♈. ♎. and the first halfe of ♊. the last halfe of Scorpio, or in ♋. ♏. Also not in the day of the change, the day next before, or day next after: Nor when the signe is in the place where the incision should be made.

Another obseruation is this, to open a veyne in flegmaticke persons: when the ☽ is in ♈. sauing in the heade. In a melancholly man, the moone beeing in the first halfe, or first fifteth degrees of ♊. except in the hips: or when the moone is in ♏. sauing in the legs. In a chollerick body when the ☽ is in ♎. sauing in the breast. The last halfe of Scorpio: except in the priuy members, or in ♋. sauing in the fecte. Sanguine men may bleed in any of the signes, so the signe be not in that member.

Againe, after the Mathematicke, this is the constellation or election of time. In fiery signes it is good for flegmaticke persons to bleede, as in ♈. ♎. Leo is excepted being the house of the Sunne, in the which there mult be no bleeding. In Airie Signes good for Melancholly men:

as \cap , \approx , Π . is excepted, and the last seauenteene degrees of *Libra*, because Π . respecteth the hands and the armes, in which commonly wee let blood.

In watry signes, good for chollericke men, as in \odot . m . \times . In earthly signes it is ill to bleed, as in δ . m . F .

The generall rules of *Ptolome* for *Phlebotomy* in 30. of *Centiloquium* is this: *Tangere ferro membrum cum Luna in signo illius membri est periculosum*. It is dangerous to open a member with a chirurginal instrument, when the moone is in the signe belonging to that member.

Good aspectes in bleeding are these δ . D . and Z . also D . & Q . so as Q . be not cōbust \square . D . & Z . \ast . D . & U . \ast . γ . & Q . Δ . D . & Z . Δ . D . & Q . Δ . & \ast . \odot . & Z . or D . also Δ . D . & M . or \ast . D . & M .

Againe this is an other obseruation, from the new of the moone to the first quarter, for *pueri*; i. those that are in their childhoode from the first quarter to the full: for *Iuuenes*: that is, young men from the full to the last quarter: for *Uiri*: that is, those that are of mans state, and begin to grow in yeares, and from that time to the new againe: for old growen folke: Look more hereof in a Table hereafter following.

28. Chapter.

Another obseruation, how particuler members are to be taken, according to the particuler times and seasons of the yeare, is this: In the

the spring and summer time, the veynes of the right side of the body are to be opened: namely of the right hand, right arme, and right foot. But in haruest and in winter, the veynes of the left hande, arme, or foote. In the spring time, blood increaseth: In the Summer yeallow choler: therefore in the spring time, and in Summer, those veynes are to be opened which most abound with blood and yeallow choler: that is, specially the right raines: for in the right part of the body is scituated the member causing blood: that is, the Lyuer: and *Choledochos* the Cofer of yeallowe choler: that is, the gall. In haruest is ingendred melancholly, which is not dissolued, but increased in the winter: therefore in haruest and winter, those veynes must haue incision, in which melancholly chiefly raigneth: that is, the left veynes for the Spleene, the receptacle of melācholly is placed on the left side. Moreouer, these foure members, the head, hart, feete, and Lyuer: are to be euacuated according to the foure seasons. The heart in the spring: the Lyuer in Summer: the head in winter: the feete in haruest: Of which matter you shall heare speake, *Schola Salerni*,

*Ver aestas dextras, autumnusq; hyemsq; sinistras.
quatnor hec mēbra: hepar. pes, Cepha, cor, vacuāda
Aestas habet hepar, ver, cor, sicque ordo sequetur.*

The right, the spring and summer haue:

The left, autumn, and winter craue.

The Summer hath the Lyuer his,
 The Spring also claimieth the heart:
 The head the winter doth dignis,
 O sayling foote thou Autums Art.

Preparation before bleeding. Chap. 18.

AS occasion of the time is to bee taken, so there must be vsed before, some preparation of the body. The neglecting whereof, would bring great hurt to the party; and surely, the chiefest preparation is this. To purge and cleanse the members, that are in the first Region of the body: touching this preparation many things are to be regarded, whereof mention is made in the eighth Chapter, from whence I purpose to take foure principall considerations, in this behalfe, being vrged thereto, for perspicuity sake: leauing the rest to thine owne discretion to be scanned.

There are therefore (as there wee did set downe) foure things especially which stay and put backe bleeding: That is to say, first crudity of the stomacke and first veynes. Secondly, a filthy gathering together of hurtfull humors. Thirdly, the body bound with dry and baked excrements. Fourthly, the mouth of the stomacke weake, and very sensible. These doo not altogether put off bleeding, but stay the same for a while till by Art they may be withdrawn or remedied. If a veyne be opened, while crudi-

tie ruleth in the stomacke, this euill will follow: that many rawe, vnconcocted & vndigested humors wilbe congested, & gathered together in the place of bloud. In hardnes of the wombe this mischiefe ensueth: that the Liuer & exhausted veines, suck out of the excrements, filthie iuices, & vncleane substance: in regard whereof it is most conuenient, to stay so long as the rawe matter may be concocted, & till the excrements descend. And if they cannot vter of themselves, as ye heard, cap. 8. They are to be prouoked with suppositors or clysters, and the womb is to be made laxatiue with prunes or *Cassia*. Cruditie & indigestion is knowen by the qualitie & quantitie of meates receiued. Also by the time in which they were eaten, and also by ponderousnes, & raw belchings of the stomack. Againe, corrupt humors abounding in the stomack, or partes neare vnto it: whether the same be bred there, or that they proceede from the head, Liuer, or spleene; they perswade the putting off of bleeding, til they may be purged; els this corruptiō of humors drawen into the veins would be more daungerous to the bodiethan cruditie it self, and infect the veines, farre with much more vncleannes: whereof do come obstructions or a consumption, proceeding of the ill disposition of the body: or the diseases which we would cure, grow greater, & their accidents farre worse: yea, and because these corrupt humors

mours are stirred, they become more fierce and
 hurtfull, nipping the stomach, & the parts cal-
 led *præcordia*, i. the fleshie skin called the Mid-
 rriffe, which separateth the heart & lungs from
 the stomach, Liuer, & other bowels: whereby
 is caused appetite to vomite, convulsions, *Lyp-
 thimia*, *Syncope*, and other fearfull accidents.
 The signes whereby to know, whether the bo-
 dily partes are possessed with corruption of hu-
 mours are these: loathing of meat, aptnes to vo-
 mit, vomiting vp the noysom & offensiue hu-
 mor: oft going to the stoole: heauines & paine
 in the stomach, fulnes & swelling of the sto-
 mach & præcordial parts. If these apeare in the
 patient, without cruditie of meats: then are we
 to expell the offensiue humours out of the first
 region of the body, which hath bin the cause of
 the foresaid euils. If the humor of himself giue
 vpwards, assay the expulsion by vomit: drin-
 king a draught either of warm water, or of *Hy-
 dreleu* warmed, that is water mixt with oyle:
 wherof take the quantitie of halfe a pound. If
 the humor gine downward, expell it by siege.
Cassia is not strong enough to purge the hu-
 mor from the stomach, as not being sufficiēt to
 expel by siege such clammie & cleauing hu-
 mours. For *Cassia* hath but a meane vertue, and
 that onely to asswage and mollifie. *Rubarb*, or
Senna, or some other gentle medicine, accor-
 ding to the qualitie of the humor: and not so
 vche-

vehement, as to molest the state of the whole bodie. And these we may vse, not once or twise but oftener if neede require. After all this preparation, then we are to let blood.

V When the corruption of humors is spread throughout all the bodie & euery particular part, so that the whole body is vnpure: then we must obserue this order: that is, we must purge euerie part orderly: as first, the greater veines: and this called *Mesenterica vena* which are branches of the great carrying veine called *Porta*, by which both the guttes are nourished, and the iuice of meat concocted, is conueyed from the stomacke to the Liuer, to be made blood. Yea, these veines are the second time to be purged, before wee euacuate the whole habite of the bodie, and not contrarie: that is, from the first veines to the greater: and from them to bring the humor into the state of the bodie: which were not to purge the noysome humor, but to infect and hurt the whole bodie therewith. But this is the course: to draw the humor from the habite of the bodie into the greater veines, from them into the first veins, and then to bring it into the bely. Yea, this great corruption of humors not onely stayeth bleeding for a time, but often times altogether. And therefore wee let not blood in the dropisie, in *Cacheria*, in hard apostumations of the Liuer and splene.

The third matter of the preparation before bleeding was aboue said, to be either the sensibilitie or imbecillitie of the stomack. For those persons haue notable quick feeling, whose veins sent from the brain, are soft, tender, open & ready to occur and meete with any matter, so that these persons without hurt cannot eate anye sharpe, sower or salt things, as vinegar, pepper, mustard. Imbecillitie of the stomake proceedeth either of distemperature, or of a verie thinne placing and standing of the small veines in the same place. And this is knowen by losse of appetite, when meat cannot abide in the stomack, but that there will be always paine of the stomack, & a promptnes still to vomit. Those persons that are thus affected, are troubled greatly euen with the hazard of life, of euerie small occasion: as fasting, anger, sorrow, feare & also by bleeding. Phlebotomy in these (I say) wasteth greatly the vitall spirits, & greatly moueth the other humors of the bodie beside the bloud, whereupon there befall to them when they haue bled, conuulsions, the falling euill, fownings & other feareful accidents, which are caused hereby. In such therfore, we must haue a foresight, & corroborat the mouth of the stomacke with things repelling the sharpnes & influence of humors: as with iuice of a Pomegranate, a Quince, *Malum medicum*, with iuice of Citrons, Lymons, & iuice of Barbaries, sower grapes,

grages, viniger, or syrops made of these. If there be doubt of a cold distemperature, vse hote aromatike things, chiefly syrop of Mynts, *Diacydonium*, sower or sharpe wine, or ypocras. Take a little of these wines, or a morsel of good bread dipt in them, and when the patient hath a little rested vpon it: open a veine, and this is the preparation, if the disease permit it. A vehement disease hasteneth bleeding, and cannot stay for this preparation: as repletion in wraстlers, in whom present suffocation, or breaking of veines is to be feared: as a great Plurisie: a ferment agewe: a great fall or bruse: In the which wee are more to feare the present danger of the disease, than the hurt by defect of the preparation. If we thinke the humors in the bodie to be thicke, and that they will not flow (for which cause also we vse to walke before bleeding) wee may enter into a bath, to make the humors subtile: not the same daye, in which we bleede, but a day or two before: Not in the selfe same daye, because it maketh the skin soft & thinne, and so in the stroke, the skinne slippeth & starteth from the Phlebotomer, which is verie dangerous. For this cause also wee giue a little *syrupus acetosus* certaine dayes before bleeding, to subtiliate the matter. And again, that the humors may passe with the more facilitie & become subtile: to prepare the to this purpose, we vse frication of the mēber,

to rub the arme or other parts, & the members next vnto the place that is to receiue incision. Also we giue before bleeding to such persons as haue weak & sensible stomacks nipped with sharpnes of choler, flowing to the mouth of the same, some portion of meat: yet not all meates with indifferencie, but meates of good digestion: as a morsell of bread dipt in *Syrupus acetosus*, which comforteth the stomacke through the ponticitie, to vse the old barbarous word the sharpnes or sowernes thereof: which also letteth the fluxe of humors, & keepeth them back from the stomack, by reason of a certeine frigiditie. For as soone as choler floweth to the stomack, so soone by the sharpnes hereof, the same is repressed & repelled.

What is to be done in the verie time of the incision. Chap. 19.

THe patient is to bleede lying in the greatest quiet that he may, both of body & of mind: especially if the strength of the bodie be infirme, & that there be doubt of *Syncope*, let him sit vp in his bed, & lift vp his head aboue the pillowes: for while we stand or sit, that facultie which beareth vp the bodie, is in a kinde of trauell, and the entrailes & bowels hanging of the precordiall partes, do enforce the vitall & natural powers. By lying therefore (specially somewhat vpright) the bodily strength is preserved,

serued, according to *Galen. prima particula. prognosticorum.* And as dead bodies are layde forth vpon their backs: so the lying of sicke and weake bodies, must be vpon their broadest part, which is the back. Againe, the back bone is the stronger part of the body, being according to *Auicen* the foundation of the bodie, as the keele or bottome of a ship is the ground worke of all the shipwrights labor.

If the partie that is to bleede be fearfull, turne his face away to the contrarie side, & let his minde be drawn by other talke of the standers by from the present practise of the Phlebotomer. The member that is to be opened, must hang downward, that the course of the bloud may be direct and easie for that part which we desire most to euacuat. Then that part of the member which we meane to take: as of arme, thigh, hande, or foote: must bee rubbed, to drawe the bloud vnto that part, euen vntill it waxe hote. Next wee take a strong bond & binde it next aboue the place, whose veine must be taken, that the bloud comming downe, the vein may swell and appeare in sight. It must be bounde harder in some, than in others: as namely in such persons that haue their veines couered, as it were, with much flesh or fatt.

By this hard binding, the veine is stretched out, or swelleth: it standeth sure and flyeth not
from

frō the stroke of the Phebotomer. And thirdly, the blood commeth forth with the more force: we vse also to binde beneath the place, when the quiuering & vnconstant veine, slipeth aside out of his place from the hand of the Phisicion. They that haue a full & thick skin, narrow veines, and deepe in the flesh: or great veines, & couered with fat, must be bound both waies, and haue the bond tyed faster than those of a contrarie constitution. If the veines be verie small & little, that they do not fully & sufficiently appeare by binding, as it happeneth in the veines of the hands, feet, & ankles. VVe soke them in warme water, or pour warme water vpon them: that the skin & flesh may waxe soft, and the veines be seene: & then we binde them, & so they bleed the better. If the veine yet appeare not, wee search for it, in the place where it should be with our fingers vntil partly thereby, & partly by the fluxe of blod we well perceiue the same. VVe bind the necke, but softly, when wee take the veine of the forehead, or the veines vnder the tonug. Yea, many times in these wee take a table napkin, & putting it about the necke, cause the partie himselfe to hold both the endes, as he may suffer or indure the same. VVhen wee throughly and well perceiue the veine, we strike the same softly with the instrument, diligently taking heed, that he wound not in steede thereof, an arterie, sinewe,

finewe, or some gristly ende of a muskle called a Tendon, lying vnder the veine, or some other part neare vnto it. For sometime when we bind hard with the bonde, there appeareth a place puffed vp with wind, & there swelleth a thing like a veine, that is no veine. And sometime, an arterie pressed downe, doth not moue, and so seemeth to be a veine: and therefore to be more sure, let him with the forefinger feele the place of the incision, & the veine vnderneath. This done, let the Phisition take his instrument at the verie fingers ends, with a good eye, and a good hande: and let him not put forth more of the point than is sufficient to pearce withall. And that the veine escapenot the instrument, in one hand, let him hold the lancet, and with the thombe of the other hande applyed to the veine that is to be opened, let him settle, presse, and keepe downe the same, that it start not aside: and so softly without haste, put in the instrument sufficiently, and let the Phlebotomer haue good experience to open a veine with both hands: for a veine of the right arme, is best opened with the right hand, & a veine of the left with the left hand. The veines in the ioynts in the bending of the arme, & in the hammes being cut in *rectum* that is right, growe together but slowly, because the ioynts with motion do open still the lippes of the wound. Neither are we so to cut them, except

cept when wee neede to reiterate bleeding. Veines without the ioynts, as in the head, in the hands, in the feet, opened in *rectum* are quickly couered with a skarre, because the sides doe soone grow together againe.

There lyeth vnder the inner vaine (called *Basilica*) also an arterie: and vnder the middle veine, a sinewe: and vnder both, for the most part, Tendons of the Muskles. *Cephalica* veine albeit it be hard to take: yet it is most safely taken of all the rest. For in opening therof a man cannot light vpon any Tendon, arterie or sinew. VVhen a Tendon or sinew is prickt, there followeth great paine, astonishment, resolution & convulsion of the ayme, with a swelling. VVhen an arterie is prickt, the blood is verie hardly stayed: and consequently through effusion of much blood: the strength of nature is wasted. Neither doth the arterie heale vp or growe againe together: but part of it is corrupted like *Gangrana*, which is a putrifying or rotting of the flesh, by mortifying the sensible parts thereof: if a sinewe or Tendon be prickt, the same is perceiued by great paine, convulsion, & swelling following.

If there be doubt that a sinewe is prickt: let not the wound grow together, till it be safe from inflammation; & that two or three dayes are overpassed: it may be kept from growing together, by bathing of it in warme oyle. After three

daies;

daies: if the paine cease, & that there come no new accidents; we may permit the vnion, & suffer it to grow together againe: if not, then we are to vse opening, & attracting things, & such as wil help the pricking of sinewes, as namely turpentine, putting therto somtime a litle *Enferbum*. V When an arterie is wounded there cometh forth thin blood, red, fine & spinning out. To help this case, make a plaister of Aloes, Mirrh, Frankencense, Bol-armoniak, the white of an egge, & haire of an Hare: lay ouer these a linnen cloth dipt in Rose-water; & fasten the plaister wel with a bond that it come not off in 3 dayes: then (this being gently remoued) apply another like vnto it. If the arterie will not grow together with these, cut the whole arterie ouerthwart, that when the extremities are pulled vp on both sides, the place may growe, and be couered with soft flesh.

Touching the maner of the incision, & quantitie of the wound: if we iudge the blood in the patient to be thick, clammy & Melantoly: & that the constitution of the aire be colde; the wound must be reasonably large & wide: that the thick blood, & grosse fumes, may the better issue forth: for the wound in this case being little & strait, the most thinne blood alone floweth out, the grosse thick blood remaining still behinde. A large wound therefore is best in these three cases.

First, when the blood is grosse, thick & Melancoly, that it may passe forth with the more facilitie. Secondly, when there is great abundance of humors: for they are better expelled with a large than a narrowe or small wound. Thirdly, when the countrey or season of the yere is extreme colde, as in Winter, in frost and snow: for cold maketh the humors thick. Contrariwise, a narrow or little cut is best, when the strength of the bodie is but weake: lest the wound being too large, the vitall spirites might immoderately passe forth with the blood. Also in a hote countrey or season, or when euacuation of subtile and thinne blood is requisite: *Schola Salerni* sayeth:

*Eac plagam largam, mediocriter, vt cito fumus;
exeat uberius, liberiusq; cruor.*

The wound make meane, for meanly done:

The fumes may passe, & blood may runne. Melancoly & flegmatike complexions bleede often times *guttatim*. i. drop by drop, & therefore a larger wound must be made in the than in others. When the veine is opened, we oft also loose the band from the vpper partes, that the blood may runne the better. If the blood runne sufficiently, let it alone: if but slowly, & that through fault of the incision, amend it. If through grossnes of the blood, or of any other cause; let the patient bend his fist hard together, or turne the staffe about in his hand, or by coughing or lowd

lowd speaking, let him enforce the sinewes, Muskles & sydes. And if need so require, bath the wound with warme water. If he be fearefull or faint harted when he seeth the blood, & that it be stayed through feare, leaue off awhile til the strength be recouered, by such meanes as we shal declare anon: Yea, albeit the blood flow reasonably wel; yet it is good in the midst of bleeding, to stop it with the finger, both to recreat the strength, that it be not too much wasted: & also that the filthie & corrupt blood may with the more speede come from the inmost partes, & so be expelled.

The quantitie of blood passed forth is to be considered, as we shewed before 14 & 15 Chapters, that it may be stayed in due time: & in this behalfe therof two regards are to be had especially. First, the necessitie of the disease. Secondly, the constancie & firmenes of natural strength: wherof looke in the foresaid places more at large. After good blood appeares, bleed no more for feare of the crampe, convulsion, palsie, drop sic, & such like. In a simple plenitude, to auoid imminent dangers, it shal be sufficient only to abate the abundance: albeit, a mediocritie stil remain. But in an vniuersal disease, as is a feuer; a mediocritie will not serue, but blood is abated more then so. And in inflammations we are not only to regard the quantity but in like maner the alteratio of the colour &

substance of blood, and when great paine, or inflammation is in places neere the incision: stay not the blood before the paine begin to assuage, or the colour of the blood to change. For alteration of colour sheweth that the same blood (vntilke the other that good is) proceeded from the inflamed part. If the humor cleaue fast to the member, or that by euacuation the strength of nature bee wasted, then wee are vrged to stay bleeding, before the blood doo chaunge in colour, and to detract that which remaineth by reiterating *Phlebotomy*, either the same day, or the day after. *Hippocrates, 2. vict. acuto. 10.* In the cure of the *Piuresie* writeth, that in the cure of that disease, the inner veyne of the arme is speedily to be opened, and blood plentifully to be withdrawen vntill the same appeare far redder than it did at the first; or that for pure and red blood, the same appeare swart and blacke, which both happen in *Plurifies*. If the blood were before rawe, crude, & vndigested: and that it come from the inflamed place, neere an incision: it becommeth redder, or yeallower, because this blood is hotter, than that which went before. If it were at the first thus coloured: namely, redde or yeallowish, than when it commeth from a member inflamed, it turneth to be black and swart, thorough adustion, and thus you see how to stop the fluxe of blood, by the quantity, by the substance, and by the colour of the same.

As

As wee are to consider the foresaide things, in the blood, so are wee to consider strength in the Patient. Of defect of strength these are the signes: The flunge of blood relenting: pale colour in the face: gapings: stretchings: noise in the eares: webs in the eies: and defect of seeing: All these shew a decay of the spirits of life; they shewe faintnes of the heart; and that the bodily parts are forsaken of inward heate. To these may bee added, the hicket: and a desire to vomit, which cometh of fluxe of the humor, to the mouth of the stomacke, as were already shewed. But the most certaine and assured marke, is the alteration of the Pulse, which changing from thicke to slow, from great to little, from strong to weake, from equall to vnequall; prognosticate defect of nature, and a perturbation in the body, not much vnlike *Epilepsia*: that is, the falling sickenes. If these come through feare, or of humors nipping the stomacke; stay bleeding, recreate and strengthen the Patient a while: that afterward the residue of the euacuation, may be perfected.

The waies to recouer and fetch strength againe, if the same giue ouer before a conuenient and commodious quantity of blood may be taken, are these: to cast colde water on the face of the Patient: to sprinkle vpon the face white odoriferous wine, to put to the nose of the same party, vineger, strong wine, muske, or

other aromattick thinges, if these helpe not, wee must close vp the veyne a while with the finger, and if neede be, the euacuation is to be imparted or diuided. But to auoid all these accidents, the remedy is to let bloud, the party lying in his bed, for so the partes of the body are reduced into one equality of position, whereby the principall parts mutually bestow one on another inward heat and vitall spirits: if the Patient bee not brought againe by the foresaide thinges, then prouoke vomit by tickling in the throat, or by pouring in a litle oile, for the force of vomiting stirreth vp strength, and draweth away weakenesse of the stomacke and heart, and presently after recovery, renew the strength of nature, with wine, iuce of Pomgranats, broth of flesh, with the receit called Diamoscho, and other cordiall things.

The instrument may bee annointed with oile, or other such liquor, that it may inflict the wound without paine, and for the most part the wounde must bend somewhat assaunt or crookedly. The incision is made two waies, as *Hypocrates* saith: one straight *Secundum rectum*, or *E directis*, downe right: the other contrary crookedly, or a swash. In these two waies wee must vse great discretion, to vse them as neede requireth, and not deceiue our selues, vsing the one, when wee should the other, (as many are deceiued in these daies.) To shewe which of these

these is to bee preferred, would require a long discourse, whereof read at large, *Fuchsius* in his *Apologie* against *Brachelius*.

There is new kinde of instruments to let blood, withall nowe a daies : as the Rapier, Sword, and long Dagger ; which bring the blood letters sometime to the Gallowes, because they strike too deepe. These instruments are the *Russians* weapons, more malicious than manly. But in this practise, the veyne must be opened with a fine Launcet, no flemme with a beard like a blood-iron, wherewith *Smiths* let horses blood, for they will sometime cut a veyn thorough on both sides, causing a crampe and deadly convulsion. And here I giue aduise, that no Surgion except he be very skilfull himselfe, open any veyne without the counsaile of the learned Phisition, or the iudgement of some others, that haue auncient and tried experience in the practise. Ignorant Barbers doo great hurt herein, taking that which comes to hand first, or which appeareth greatest (perhaps a sinew for a veyne) so letting out the vitall spirits, and killing many : and when it is done, this is all their defence, to say the signe was there, and he would needs be let blood.

Vnction or annointing, is oft vsed in this practise : sometime we rub the member, whose veyne is to be taken with oile, that thorough the warmth thereof, blood may bee made the

more

more flowing : sometime the instrument is appointed, as was saide before, to mitigate the paine of the inflicted wound . Sometime the wound it selfe is annointed, that it may bee the longer time, before it bee couered with the Scarre, and that the humors left behinde, may with the more liberty breath forth, and that the ill humors remaining, may bee also the better dispersed.

Drinke, and especially wine, may bee very well taken both in the bleeding, if Syncop e happen, and after bleeding, to cause good bloud, and to recouer againe the vitall spirits.

Bathing two or three daies before, is vsed in some causes(as was declared in the former chapter) but not the selfe same day.

The common opinion is, that bleeding must be done fasting, and vppon an empty stomacke : but this is not approoued of the best writers, for many of them giue aduise to eate before bleeding a soft or poched egge, with a draught of wine about nine or ten of the clocke in the forenoone; and then presently to open a veyne. For nature (the stomacke being empty, and being altogether destitute of nourishment) doth mightily hold fast, and retaine the bloud : whereas when a little nourishment is taken in small quantitie, as is a poched egge, & a draught of wine; shee permitteth the bloud easily to passe forth.

It hath bin declared before Chapter 16. that if necessitie vrge, there is no prescribed time of bleeding, but that if the disease require, the same may be done at all times, yea euen in the night. Yet the forenoone of the day is the most vsuall time. There is an houre of necessitie, which is any houre in the day or night: and beside this, *hora necessitatis*, there is *hora commoditatis*, which is the morning or forenoone houre. viz. *Galen. de Curan. ratio per sang. missio. cap. 13. & 20. & in prasagio experientia Comprobato cap. 4. Aetium lib. 3. cap. 16. Oribasii. lib. 1. cap. 11.*

Moreouer, if a veine opened send forth bloud whitish in coloure: stay the same, for it appeareth that the humours in the bodie are rawe, colde, and vndigested, through defect of naturall and digesting heate. This is affirmed by *Aristotle lib. 1. & 9. de animalibus*: and *Hippocra.* witnesseth, that alwaies womens termes appeare not in their proper colour; & that by reason of frigiditie and coldnes of white bloud, they oftentimes vomit, and haue fluxe of termes.

Finally, as in purging, so in bleeding, as wee haue already said, wee are to consider the standing of the wind, & in winter to bleed when the same is Southwesterly: & in Sommer when the same is Northerly. For the North wind with cold tempereth the heat of the time.

The

The verses of Schola salerni.

*Hac facienda tibi, quando vis Phlebotomari,
Vel quando minuas, fueris vel quādo minuas,
Unctio sine lauacrum, & potus fascia, motus,
Debent non fragili tibi singula mente teneri.*

Before and after letting blood,
all these are meete and requisite:
Vnguent, a bath, strong drinke and good,
with motion mean, and bonds most fit.
Remember all doo none forgit.

*A prescription, or regiment of the patient, after
bleeding. Chap. 20.*

WHen a sufficient quantity of blood is withdrawn, proportionable vnto the greames of the disease, vnloose the bond, and drie the wound: lest beeing moistened with clodded blood, either it growe not together againe, or bring some doubt of impostumation. These thinges not done accordingly, enforceth vs sometime the eight day after, to open the wound againe. If any piece of fat come forth, the same must not be cut off, but softly put againe into the wound. When the wound is wiped cleane, & drie, close vp the veine with linnen dipt in rose water, or sweete water; or with Oile, if wee purpose to bleede againe. Let the same bee tyed on
with

with bondes: not too hard for writhing the skinne, or lippes of the wound.

If a sinew or Tendon be pricked, yee heard in the chapter before what is to be done. If there be doubt of fluxe of bloud, or an inflammation through pricking of a sinew, we may beside the premisses, apply after the practise of others, a plaster of Ceruse: and in compas about that, a Cataplasme of Houfleeke, Nightshade, Plantaine, and other cold things. After bleeding lye a while on the backe, for quietnes sake, and to recreate the strength of nature, and to recover the vitall spirits. He must not frequent his accustomed affaires, nor moue his bodie hastily, nor exercise himselfe immoderately, neither must he vse *Venus* delights, nor yet bath himselfe. For the bloud and spirits naturall, vitall and animall which haue of late bin vehemently stirred by bleeding, are now by rest againe to be settled: else the same bloud and spirits would by these outward vehement exercises, bee inflamed, and so wast and consume away. Neither must the party presently sleep, lest either the languishing heat be quite extinguished, or the lessened spirits, altogether ouerwhelmed. Let him therefore watch, and rest void of contention, either in mind or in body. When an houre or two is past after bleeding, a little meate may bee giuen him: Little (I say) in quantity, but of good iuice, to nourish the
body

bodie, and profitable also to withstand the present disease: & when 2. hours are past this short repast, he may then sleepe, so as his keepers carefully take heed, that he tumble and turne not himselfe on the arme that hath bled, or that the bond by tumbling and tossing be not remooued, which may cause the bloud to flow againe a fresh, or some other displeasure to fall out. Afterward the diet must bee increased by little and little, both in respect of the quantity, and of the goodnes of the meat. Neither as yet must we hasten to a full diet, for the heat of nature being abated by bleeding, can not as yet receiue or digest aboundance of meat. And againe, the veines lately emptied, would exhaust out of much abundance of meat, much raw and vndigested matter, wherewith the whole bodie is stuffed againe. If concoction bee perfected and accomplished, so that we may eate great quantity of meat, yet vse a moderation: for to what purpose is it, presently againe to stuffe the bodye with iuices and humours: for the abating and taking away wherof, we did so lately let bloud. Therefore after bleeding the patient is to liue more finely and exquisitly, and not to goe to his old intemperat diet againe, as the dog to his vomit. Neither are these intemperat persons meete men to be let bloud, as we prooued and shewed before in the 8. Cap. Fig. 1.

Of reiterating bleeding, which they call *Epa-*
phoresis, this is the order. First in inflammations,
great paine, hot fevers caused of aboundance
of hot blood: a veine must be opened, as is al-
readie shewed, euen presently at the very be-
ginning before the matter be gone to som prin-
cipal member: not only that the aboundance
and excessive quantity of blood, but that much
more a great deale, euen plentifully, and ge-
nerally may be euacuated, yea euen till the pa-
tient giue ouer, if the strenght of the body so
permitte. And in diseases caused of fulnes, the
bodily powers are firme for the most part: nei-
ther doo they shrinke or relent much, by this
plentiful bleeding. And when *Hippo.* permit-
ted bleeding so long, till the patient should
giue ouer: hee ment it so, when the strength
therevnto sufficient, was able to beare it, and
not otherwise. For if fainting doo happen whe-
the powers of nature are firme and constant, it
doth only wast the spirits in the arteries, those
forces remaine still vnhurt and vndamnified,
which nature hath bred in the hart, Liuer or
braine. And albeit these decay in *Lypothimia*,
yet of the settled forces other like presently
come in place whereby againe the Patient is
reuiued. But when the strength of the bo-
die is weake, and greatly enfeebled, be-
cause the forces of nature settled and seated in
the principall members, are also impaired.

If

If *Lypothimia* then chaunce, restitution will hardly be made. Therefore (I say) the vertues of nature beeing greatly debilitated: beware of ouercomming or fainting. And this is the order in great and vrgent sicknesses.

In small generall diseases, as in repletions, fulnes, feuers, and such like, whose cause and principall matter is contained in the veines: if bodily strength permitt, we must presently euacuat, & wholly at the beginning, & at one time: not till the patient ouercome, but so much as is needefull, and as the infirmitie or malady requireth. And this euacuation without any hurt to the naturall forces, withdraweth the matter abounding, either before the same do wholly putrify, or that it possesse some notable member, or before any horrible accidents happen. He that for feare or any other cause parteth or diuideth in these, the euacuation: he continueth the disease a long time, & doth no good, but great hurt to the sicke patient. But if for imbecillity of strength the whole euacuation can not be accomplished or done: seeing it is better in this case, to marke the strength of the patty, then the vehemencie of the disease: we are inforced to vse partition in the bleeding; and yet with a great circumspection and care: and let the partition be within a litle distance of time, either by vndooing or vnloosing of the bound, or stay the blod with applying

applying the finger on the wound so long, as by the foresaid meanes, the forces of the body may bee recovered. Sometime an hours space is sufficient, sometime more houres are required, to the restoring of the forces of nature. The best way is not to deferre the partition of bleeding past one day: yet (I say) if strength permit, & that partition must be vsed, bleede twise in the selfe same day, in general diseases especially: & except other impediments greatly let, euacuatur in one day, as much as is expedient, before the matter come to putrification or that other euils do grow. But in partiall diseases of particular members, chiefly in inflammations, the parted or diuided euacuation may be put off a longer time, either to the day following, or to the day after to morrow: that in this space, the corrupted humours, may goe from the member diseased into the veins exhausted: and so by the next incision, be euacuated. The member of the bodie that is afflicted with griefe or corruption, by little and little, euen in one day or two daies at the most, sendeth downe the humours to the place where the incision was. And for as much as they are corrupted, they are not there to remaine: albeit the former paines be mittigated and asswaged. But if the inflammation bee pestilent and venomous, as is a pestilent botch or carbuncle, the euacuation of necessitie must be

reiterated even the selfe same day: lest the pestilent infection sticke and stay any long time, in the veines, to the great hurt of the partie.

But neither must reiterating of bleeding be vsed: For thereby the vitall spirites, and inward heate is diminished, and vntimely age is hastened on apace, and the same when it commeth is made subiect to greuous diseases, as *Chachexia*, the dropsie, gout in the iointes, trembling, palsies, and apoplexies. Yea when the naturall heat is immoderately cooled and naturall moysture wasted, the bowels languish, crudity and vndigestion becometh to beare rule, whereby are caused great and greuous euils in the body of man. And thus much of the reiterating of bleeding, and order thereof.

But let vs come againe to our former matter of prescription, moderat motion, & easy walking, as it was conuenient before bleeding, to vnloose, and make the humours thinne, so also the same is necessitie after bleeding to disperse abroad the reliques of those vapors and humours which are left behinde. And as bondes of linnen were vsed before bleeding, to the intent the veines might waxe bigge, appeare full, and bee the better perceiued and seene: and that the humour with the more facilitie might come to the place appointed for

for incision: so afterward, they are also need-
full, to stay the fluxe of blood, and bind vp
the wound.

It was already said that the partie let blood
must not sleepe, that is to say, not within
the space of eight or sixe houres at the least,
whereof this is alleaged as a reason, that the
fumes caused by sleepe, bee not carried vp to
the head, and so offend the braine. There may
hereof bee alleaged other causes more, as
namely: lest the veine opened should take
hurt by tossing of the patient vp and downe in
his sleepe: which cause was lately aboue spe-
cified. Also lest in sleepe the humors should
flow to the member, where the incision was
made, and there apostumat. For pained pla-
ces as *Galen* affirmeth *Capit. 95. medicinatis
artis & lib. de Curand. ratio. per sang. missio-
nem. Capit. 7.* are by nature accustomed to re-
ceiue fluxes: and chiefly in sleepe. *Auicenna*
alleageth this reason: Because by sleepe af-
ter bleeding (for the most part) there chaun-
ceth in the members, a contraction or bruising.
For while the member is tossed hether and
thether with inordinat and vnorderly moti-
on: the bondes are vnloosed, the wound vn-
healed, and (as it were) newly opened, not-
withstanding the late incision, it doth a-
fresh sende forth immoderat fluxe of blood,
the partie in his sleepe not witting thereof.

whereby (as all men know) the life commeth into great danger. Againe, another discomfort by sleeping immediatly after bleeding is: that fumes excrementes through sleepe are againe inwardly reuoked to the principall members.

Againe, the vitall spirits, and natural heat, which by opening of a veine, are drawn to the outward partes and members, by sleepe are reuoked to the center, or middes of the bodie: and so very often, partly through a commotion made by incision, and partly through that retraction made by sleepe: such a boiling happeneth in the humours of the body, that oft therby at length a feuer is caused and kindled. It is therefore apparant, that sleepe presently after bleeding is not good, and chiefly if in the meane season the patient haue receiued no meat. If after taking of meat hee sleepe an houre or two, or more (disposition so seruing) it hurteth not at all, or verie little.

But for as much as the commotion of humours can not fully be settled in short space after bleeding, it is far safer to forbear sleepe, as we haue proued by sundry reasons. If necessity & disposition vrgē sleepe, let the same bee short, and with a diligent circumspection, that the bonds bee not vnloosed, and so the Patient brought in perill of his life. Some bring in a
further

further reason, yet of the foresaid, namely, why we should not presētly sleepe after bleeding. & that is: because the matter through sleepe, waxeth thicke, and so a brusing or a contraction that way happeneth in the members; as is accustomed in a quartan, through the thicknes & coldnes of the matter: Againe the veines & sinewes after bleeding, being now emptied, are becom cold, & so the fumes which are brought vnto the veines and sinewes in sleepe, do also be come thicke and waxe colde: because by sleepe the whole naturall heat of the bodie is drawn euen into the depth and profunditie of the bodily partes. And when the veines and sinewes are become cold, partly for defect of bloud, partly through cold fumes brought by sleepe vnto them: they doo participate grossnes, coldnes, & contraction to the other members: for it is a principle, *Simile a simili facile afficitur*. Like of the like is easily affected. And thus much of sleepe after bleeding, which is to bee vnderstood of sleepe onely following immediately after, and not otherwise.

The verses of *Scola Salerni* concerning this point are these.

Sanguine subtracto sex horis est vigilandum,

Ne somni fumus ledat tibi sensibile corpus

Ne nervum ledas non sit tibi plaga profunda.

Sanguine purgatus, ne carpas protinus escas.

Sixe houres sleepen not, when bloud is let.

The tume by sleep: full hurtfull is:

It hurtes the veine, if stroke be great,

To feede straightwaies, is farre amisse.

The patient is a while after bleeding, to abstaine from meat, till the motion of humors be appeased. For in this case, rawe iuices and meat not yet concocted, is drawn with the bloud to and the member afflicted. Looke *Galen, lib. 4.*

Cap. 10. de Sanitate tuenda.

Milke, & meates made of milke, after bleeding are to be eschewed: for certeine of those humors which were troubled and moued in opening the veine, flowe vnto the stomack: and forasmuch as milke is otherwise of it selfe, subiect to corruption being nowe in this case inwardly receiued, & mingled with the foresaide humors: it is verie soone putrified: and because of the sweetnes thereof, though it be vnconcocted & rawe; yet it is mightily sucked vp, and drawn in of the emptie veines.

Item, all cold things, either inwardly taken, outwardly applyed, are to be auoided: of which sort are chiefly cold meats, cold drinks, cold bathings & washings, cold aire, thinnesse of clothes, bare sitting vpon stones, coldnes of the head & feet: for by these the body would be immoderately cooled; natural heat being already diminished through bleeding.

Item

Item, mistie & cloudie aire is to be eschewed: for such weather ingendreth Melancholic bloud, & maketh a heauie mind. He must therefore walke in cleare, bright & faire weather: for thereby the spirits of life are refreshed.

Item, immoderat motion is to be forborne, & a temperat quietnes to be embraced, both of body & of mind. For vehement moouings do yet more & more stirre & disturb the humors of the body, before excited & stirred vp by bleeding: & so consequently the same weaken too much the bodily forces: wheras quietnes & rest soon appeaseth this commotion of humors.

Item, eating of salt fish is to be auoided after incision: for these salt meates often times cause itchinges & scabs. *Simeon Sethi, de piscibus.*

The verses of *Schola Salerni*,
in these matters.

*Omnia de lacte vitabis rite minutus,
& vitet potum, Phlebotomatus homo.
Frigida vitabit, quia sunt in mica minutis,
Interdictus eritq; minutis, nubulus aier,
Spiritus exultatq; minutis, luce per aures,
Omnibus apta quies & motus saepe notinus.*

V White meates eschew, & drinke not too much
Cold things forbear as ill for such.

V Waik not abroad in clowdie daies,
cleare aire doth cheare the spirits alwaies,
Be wholly quiet at all assaies.

Item, Beware of much meat, the first or second day. And let the meat be of good digestion, and causing good blood, as soft egges: good wine: chickens, and such like. Therefore *Isaac in dietis* saith of such as are let blood: that their meat must be lessened, and drinke increased: that is, the drinke must be more in respect of his meat that he eateth daily, not in regard of that custome which he obserued before bleeding. Yea, he must nowe drinke lesse than he did before.

Some after letting blood, are verie drye in the mouth: which happeneth through the great motion of the humors, and by abundance and ebullition of choler, whose fumes arise vpward to the mouth & other parts. These are to drink Barlie water, to mitigate the acuitie, sharpnes & heat of choller: & so must they do in like manner that are in doubt of inflammation of the Liuer and stomake, through abundant boiling of chollericke humors: specially, if it be red choller, that aboundeth in them.

If through hard binding of the arme before or after bleeding, paine doe ensue, and so consequently fluxe of humors to the place causing apostumation in the arme: then according to *Auicenn*, let blood in the other arme or according to *Rhazes*, aboue the place in the same arme; and apply to the place repercussives to keepe backe the matter.

The wound in the arme after bleeding sometime healeth but slowly, because the instrument was annoynted with oyle, as wee said before, that the same might enter the better & do leſt hurt to the patient, as *Galen* ſaith 9. *Method*. The cauſe now of this ſlowe healing is, for that the healing is much hindered, by reaſon of the oyle which is betweene the ſides or the lippes of the wound: For, as the ſame *Galen* & other authors affirme, a wound is not cured or healed as long as there is any thing betweene the ſides or lippes of the ſame. Another cauſe why after bleeding the wound cloſeth but ſoftly is, that there hath bin too much euacuation of blood, whereby the force of nature is debilitated, which hindereth the continuatiō or conſolidation of the wound. A third reaſon hereof may be, the oft moving of the arme: for wounds do neuer heale, except the member enjoy reſt, where they are inflicted. Therefore let this fault be remedied by contraries, as thus: Let not the instrument be oyled: euacuat not too much blood: & laſtly, forbear exerciſe & motion of the arme.

*What veines are to be opened, both in generall,
& particular diſeaſes. Chap. 21.*

Sometime are opened veines, & ſometime Arteries. Of opening of an arterie wee purpoſe to ſpeake afterward in a Chapter by it ſelfe. And now of opening onely of a veine;
which

which is vsed in many members: Sometime in the arme called *Manus magna*: sometime in the hand called *Manus parua*: sometime in the feete: sometime in the nose: sometime in the forehead: lipps: tounge: palat, or rooſe of the mouth: sometime in the corner of the eye, toward the forehead: sometime in one place: sometime in another: as this discourse following doeth plainly teach. It is knowē to those that haue seen Anatomies, that there are in the bodie of man, two sortes of veines. Generall, & specull.

Fiue veines are opened in *Manu magna*, in the great hande: that is, *ab ascellis vsque ad cubitum*, that is, from the elbowe forward, or downward, as *Rhazes* saith in 7. *ad Almon* for. Chap. 21. and *Auicen* in quarta. i. Chap. 20. VVhere note, that Phisicians by the great hande, do meane the whole arme, together with the hand: as by the foot, the whole legg, from the hippes or huckle bone, to the soale of the foote.

The common or generall veines which appeare in the middest of a mans arme, are these: The first is *Humeraria*, or *Humeralis*, in Greek called *Omiata*, because by the shoulder it cometh to the hande. It is also called in Latine *Vena exterior*, the outward veine, because it goeth along on the outside of the arme. It is againe called *Cephatica*, or the veine of the head.

This veyne is moit apt and fit, and moit safe to bee opened, for diseases of the vpper parts of mans body; it is lesse dangerous than the rest, because there is no sinew or artery vnder it, to hinder or indanger the opening thereof. If a man chauce not to touch it at the first stroke, he may be bo'd to strike it againe: for there is I say, no ieoperdy to cut any iunkie. It is opened with a long cut to let out grosse blood: and albeit there be no feare of any sinew, artery, or Tendon vnderneath it: yet wound it not too deepe, for feare of apostumation. This veyne is taken when the parts about the breast or necke (as the face or heade) are diseased. Therefore it is opened profitably for passions of the heade, as *Hemicrania*: the Mygraine, and *Mania*: Madnesse, which cometh of too much abundance of good blood, hauing recourse vnto the heade: And such other like hote passions of the head, proceeding of hote matter,

Also *Cephalica* is taken in headach: watchings: and paines of the eies. If it bee opened for headach, purge a day before with a certaine quantity of Pills of *Hiera simplex*, according as the learned Physition shall appoint thee to take. If you cannot finde out this veyne in the arme, take his braunch about the thombes ende. *Galen. cap. decimo sextode Curand. ratio. per sanguin. missio.* *Cephalica* opened, euacuateth
and

and pulleth backe from those parts which are about the canell bone of the throat called *Clavicula*, and this it doth with the more celerity and greater speede, if it be opened in the arme more weakely, and with lesse speede, if it be taken but in the braunch thereof: that is, betweene the forefinger and the thombe. Inward and outward affects of the head, whether they be but yet a beginning, or that they are in *Statu maximo*, in the greatest force; are cured and drawen backe, by opening *Humeraria* veyne in the right arme, if the affects be on the right part or side of the heade: or in the left arme, if the paine be on the left side. This practise may be done not so speedily but at more leysure, only to preuent the foresaid euils to come, by opening the braunch of *Cephalica*, iust betweene the thombe and the forefinger. These affects are oft remoued without opening of a veyne, as are also sometimes frensies, rauiages, apoplexies, euen by scarrification of the shoulders, by boxing and bleeding at the nose. Item cics inflamed, and burned with sharpe droppings, and cics that water, are remedied: First by opening of *Humeraria* on that side where the paine is most: and afterward the matter of these affects is pulled backe, by applying cupping-glasses, to the hinder part of the necke and shoulders.

The second generall veyne in the arme, is the inner veyne of the same, called of the Greekes

Hepatica.

Hepatitis: Of the Latins *Fecoria*, or *Lienaris*: late Phisitions call it *Basilica* or *Regia* in the right arme it is called *Hepatica*, the veyne of the Liuer: and in the left arme *Pulmatica* the veine of the lungs: it is also called *vena interior*, and it commeth or groweth thorough the arme hole. *Fuchsius* calleth it *Axillaris*: that is, the veyne coming from the liuer to the arme hole: Of *Axilla* which is the arme hole, or hollow place vnder a mans arme, where the haire doth grow.

The opening of this veyne is very doubtfull and dangerous, both for the artery, and muskle that lyeth vnder it, and also for the manifold and vncertaine course of the sinewes in that place: & specially it maketh a man more doubtfull in the inner bought of the arme, than in other places, because there the arme is lesse fleshy. Ignorant Barbers, thinking to open *Basilica* open oftentimes a great sinew hard by it, which is like a veyne, and so the vitall spirits, and life it selfe oft runneth out together with the bloud, and this doo ignorant Barbers take in cure for headach, and want of sleepe, when they should take *Cephalica*, of whose dangerous boldnes we spake before, Chap. 19.

This veyne emptieth from those parts which are beneath the necke, as are the breastes, sides, lungs, heart, liuer, spleene and marrow: yea, it emptieth from the middle part of the body, *vsque ad Claviculam*, to the canell bone of the
throat,

throat, and is opened to helpe passions of the brest, stomacke, spleene, and liuer, and also to helpe Pluresies of the sides. If ye cannot finde it in the arme, seeke the braunch of it betwene the fourth and the little finger: the liuer and heart are the roots of this veyne.

Seuerall fulnes, being no affect of any particular part, without choise may be withdrawn from any veyne: yet most commonly it is done with greatest profit, from the inner veyn of the right arme; which principally euacuateth from *vena cava*: the hollow veyne and the liuer. So also is fulnes of choler, taken from the inner veyne of the right arme, as melancholly repletion is abated from the inner veyne of the left arme, according to the scituation of the Milt. In which regard, the *Basilica* of the left arme is called about *Lienaris*. That repletion which cometh of a filthy gathering together of raw and crude humors, must equally bee taken out of both armes.

In the cure of Feuers, this order of bleeding is to bee obserued: A simple *Sinochus* feuer, or a simple feuer putrified or caused through putrification of humors: requireth to haue the *Basilicam* of the right side, or arme opened. So doth an hote pestelenciall feuer simple, and not compound. So doth a tertian, and a continuall quotidian. A quartan requireth the inner veyne of the left arme.

This

This is also the Methode in pure intermit-
tant and discontinuing feuers, if either the
plenitude or accidents will haue vs to open a
veyne.

Revulsion of matter from those partes pla-
ced betweene the canell bone of the throate
and the raines: is dotie from the right *Basillica*
or left, as the disease requireth, if the right
parts be affected, open for revulsion *Basilicam*
dextre brachii: If the left, the other *Basilica*:
Open this veyne in the arme, if great and speed-
dy bleeding be needefull. If a more slacke and
remisse bleeding will serue the turne, seeke the
braunch of it in the hand, betweene the little
finger and the fourth, as some say from the
right kidney to the left, and passing ouer the
bottom of the stomacke.

Inflamations in the gut called *Colon*, which
is a great gut rising from the left side to the
right, or in which is the disease ealled the Col-
lick, albeit the same be vnder the raines, yet they
are cured by revulsion; opening *Basilicam*, or
the inner veyne of the arme: For so the begin-
nings, and deriuations of the veynes doo shew.

In inflamations of the lungs: take the *Basili-
ca* or inner veyne of the left arme, rather than of
the right, because the veynes of the lungs, come
from the right side of the hart, which part of the
Heart is placed toward the left part of *vena cava*,
And so by the left wing, runeth into the left arme.

This

This order of incision also helpeth spitting of blood, thorough extreame coughing: the disease called Tabes: trembling of the heart and such like.

In a Pluresie, open the Basilica of the arme, according as the paine shall happen in the right or left side. In a Pluresie of the right side, the right Basilica, and so contrary. Item the interior veyne is taken in inwarde and outward apostumations of the brest, or midriffe, and in inwarde Vlcers, which cause vs to spit blood. Thus also, by opening of Basilica, are cured inflamations on the shoulders, and vnder the arme holes: except they come to the very bought of the arme: for then it were very dangerous to open the very part or member inflamed; but in this case we open a veyne in the hand, *e directo*: that is, straight.

In paines and inflamations of the Liuer, wee open the right Basilica: and so the left Basilica when the Milt is inflamed, grieued, or ill affected: and in all these wee must take the veyne in the arme if much bleeding be needefull: and if not, then the veyne in the hand. Derivation from the Spleene, is not made as some do think, into the veynes called Hymorroide, but into the belly. So derivation from the hollownes of the Liuer is made also into the belly.

Apostumations in the Raines, when the veynes also all full of blood, are repelled by the
right

right *Basilica*, if the right kidney bee grieued : by the left *Basilica*, if the left kidney bee ill affected.

If excessiue fullnesse doo not vrge in these apostumations, the revulsion is better attempted out of the lower veynes, which are straight and right, as out of the right or left ankle.

Affects of the belly, as immoderate fluxe of termes, are stayed by opening *Basilica* in the arme, which draweth the fluxe vpwardes : So doo also cupping-glasses, applyed either to the paps or nauill.

That revulsion which is made by opening *Basilica* in the arme (specially the right *Basilica*) is to be accounted generall : because it draweth from the Liuer (which is the fountaine it selfe) from whence all fluxe of blood commeth, whether the same bee fluxe of termes, or any other fluxe of blood.

Revulsion made from the lower veynes, is particular : not euacuating first from the Liuer, the fountaine of blood, as the other doth. And forasmuch as things vniuersall, goe before particular things : therefore in inflammations vnder the kidneyes, wee must first pull backe with direct opening of *Basilica* in the arme : and afterward wee are to open the lower veynes, which also haue some force to reueale : but if either the fullnes or the fluxe be great, it is not best first to open these veynes below.

¶

Finally,

Finally imminent diseases like to arise thorough plenitude of bloud, are kept backe be opening the right *Basilica*: that is, the inner veyn in the bough of the right arme.

The third generall veyne in the arme, is the middle veyne, called of some very properly and fitly *vena communis*: of other *Cardiaca* or *Cor-diaca*: *venanigra*: and *Mater*: and of the barbarous Philitions, *Mediana*. It is called *Media* or *Mediana* for three considerations: First, in regard of the situatio, hauing in the vpper part of the arme aboue it *Cephalica* vein, & in the lower part of the arme beneath it the *Basilica* veyne: and so these being as it were extreames, it pos-sesseth the mids betweene them both: Yea, it is indeede a braunch of them both. And for this cause secondly it hath the name *Mediana*, as if it were made of them two, as the meane is made or consisteth of the two extreames. Thirdly, it hath the name *Media* or *Mediana*, for that it is *Media*: that is, in the middle in respect of euacuation: Euacuating both from aboue and from belowe, aboue the necke, from the necke, and from beneath the necke: For it springeth (I say) from the diuision or parting of both the other veynes, that is, *Cephalica* and *Basilica*.

By opening this veyn, there is made a generall euacuation of humors, through the whole body. A generall or vniuersall euacuation I call it, not because it springeth frō the hart as some affirme,

affirme, but because the fluxe commeth generally from all parts: This veyne being a braunch (as yee haue heard) both of *Cephalica* and *Basilica*.

This veyne is taken when neither of the other appeareth, and withdraweth blood from them both, according to the iudgment of some: This veyne is the same which is called also *Funis brachii*. *Cephalica* and *Basilica*, are (as it were) the Parents of *Mediana*: As often therefore as thou art determined to open *Basilica*, and that the same doo not appeare, take rather the *Mediana* veyne, than the *Cephalica*. And if thou purpose to detract blood from *Cephalica*, and that the same doo not shewe conueniently, open rather *Mediana* than *Basilica*: and being compact of *Cephalica* and *Basilica*, it withdraweth blood indifferently from them both: both from place and parts beneath, and also above.

Some giue aduise (vpon what ground I doo not yet see) not to open *Cardiaca* if the Patient feele any weakenes at the heart: but if necessity of bleeding bee vrged, the heart beeing enfeebled, wee are rather to open *Cephalica* or *Basilica*.

This veyne is opened to cure passions of the whole body, especially when they proceede of heate of the heart, and of the Lungs: In opening whercof wee must bee very warie

and circumspect, for vnder it there is a certaine muscle, which being very deeply cut or pearfed, bringeth the Patient in icoperdy of life: and it is opened in paines of the brest, right side, and in Pluresies; and must be opened somewhat ouerthwart. The danger in the cutting for the sinew vnderneath, is especially, if the wound bee deepe: and the same danger in the Greeke is called *Aneurisma*. Yet for all this, there is lesse perill in opening of this, than of *Basilica*: and as being compound of *Cephalica*, and *Basilica*, it euacuaterh from them both: so it reuellet h and pulleth backe from them also, and is for the most part deeply wrapped in the flesh, and appeareth not but as it were *Soboles*, an offspring of *Cephalica* and *Basilica*. V Where note that albeit the opening of a veyne, as *Galen*, and *Anicen* do testefie, be an vniuersall euacuation out of the whole body, yet not so of all veynes a like, but chiefly that is to bee called and accounted a common and generall euacuation, which is made out of these three common and generall veynes in the arme: And as affects of the vpper parts are cured by incision of the vpper veynes, in the arme; So are griefes of the neither partes, by opening of veynes in the hams and ankles, as *Galen* saith, and as wee gaue instructions before in the eighteene and nineteenth Chapters. If wee doubt whether the Patient will bleede effectually

ally or no. First, bath the arme in hotte water, and when the wound is inflicted, drawe the wounde wide and abroade, that the grosse melancholly bloude, may the more easily passe forth. Note also that in all sickeneses and times, except in time of pestilent infection: that veyn of the three, must be taken: which appeareth biggest and most full: for by that yee may perceiue that the members appertinent to those veines, are most abounding with superfluous hot blood. And thus you see the profit of opening the common veynes in the arme.

Moreouer a veyne opened in the arme, stayeth fluxe of hemorrhoids: If any inflammation be about the priuy parts, Arefe, Bladder, or other parts called *Obscena*: so as ther be no venombd matter in the same; the fulnes and flux is to be abated out of the vpper veynes in the arme. After the which if necessity require, particuler revulsion may bee made out of the lower partes: And so in fulnes and fluxes of the thighs apostumated; first open a veyne in the arme, and afterwarde in the foote. If the plenitude or inflammation be but small, omit the vpper veynes, that euacuation from the lower partes shall bee sufficient: And this is the order of opening a veyne either in the beginning, or in the state of diseases.

For detraction of blood, to withhold diseases like to come of present fulnes and repletion,

to stay the Hemorrhoids, withdraw the fulnes out of the vpper veines. If a member haue full veines broken, or like to break, & that the member readily receaue fluxes comming ynto it, & that there be yet no disease bred: do not euacuat the matter at a veine yerie nigh the affected part, but a farre off, and direct as it were: whereby the future fluxe may be stayed, and the accustomed force withdrawn another way. And thus much of the generall veines in the arme.

Now to proceed to special veins; we are first of all to call to mind: especially the veine called *Saluatella*, or *Salubris*: this veine is called of the Arabians, barbarous phisitions, and of *Auigen Sceilen*. This veine appeareth in the hand betweene the ring finger and the middle finger, where wee are to note that oftentimes among the Arabians & barbarous phisitions, that veine which sheweth it selfe, at the wrest, and is compact of a braunch of *Cephalica* or *Humeraria* veine, and the veine called *Axillaris*, is called *Sceilen*: whereupon late writers call also the veine *Saluatella Axillaris*.

This veine is opened in the right hand, for obstructions of the Liuer: and in the left hand for obstructions of the splene: whereof as yet there is no apparant reason, but that experience prooueth it to be so. Moreouer when we open

this

this veine, the hand of the patient must be put in warme water till the veine be puffed vp, and swell, and may easily bee seene: and that the humour may bee made subtil. Yea when the veine is opened, it is againe put into the water, that the bloud may the sooner issue forth: if it com forth but softly as it accustomably happeneth to most of those that bleed at this vein. Again, it is good to let it bleede in the warme water, lest the wound bee too soone couered quer with the skarre. *Rhaz. lib. 7. Cap. 21. ad Almonf. and Anicen quarta prim, cap. 20.* When this veine hath bledd as much as you will, apply on it a little Oile and Salt, and there is no feare in it, because it is far from the hart. This practise (I say) of opening *Saluatella* for opilations of the Liuer and splene, hath no manifest reason, but is grounded yppon *Galens* experience: who hauing a patient troubled with those diseases, deemed, that if he did let her bloud of *Saluatella* veine, shee should recouer: which hee did accordingly, and she was cured presently.

Saluatella in the right hand betweene the little finger and the next adioyning, is opened in opilations of the brest, against gummy matter in the eyes, perbreakings, yellow iaudies, paines of the cholicke in the right side of the belly. *Saluatella* in the left hand is opened against all diseases of the splene comming of

repletion & oppilation: it is good to heale the Hemorrhoids, frensies, and chollickes in the left side, diseases of the veines, and abundance of termes. And I am here to aduertise of the variety which I find among writers touching the place where *Saluatella* is to be opened. For the most part I take it to bee opened betweene the middle finger & the ring finger. Yet another place of his incision (as some hold) is betweene the ring finger and the earre finger or little finger.

Of the incision of *Saluatella* fixe vtilities are found & numbred. First it purgeth the splene: secondly it clenseth the Liver: thirdly it purifieth the brest: fourthly it taketh away impediment in speach: fifthly it conserueth & keepeth from hurts those parts called *Præcordia*. i. the strings of the hart, the mouth of the stomake, and all the spirituall members neere the hart: sixthly it remoueth vnnaturall paines, euen from the hart it selfe: Which commodities are contained in these verses of *Schola Salerni*.

*Ex Saluatella, tibi plurima dona, minuta,
Splenem, hepar, pectus, vocem, præcordia purgat.
In naturalem tollit de corde dolorem.*

Veine *Saluatel* doth profite all,

The splene, the Liuer, brest, and voice.

It purgeth partes præcordiall,

And makes the hart fort to reioice.

And

And thus you see from how many places the opening of *Saluatella* withdraweth bloud: that is from the splene, liuer, brest, precordiall partes, and the hart it selfe: in whose opening, no daunger is to bee feared, onely with warme water (as yee heard) we must both subtiliat and make thinne the bloud, & cause the small veine, the better to appeare in sight.

Although (as yee heard in *Saluatella*) that this name *Axillaris*, of some writers bee giuen to the veine *Saluatella*: And that the veine called *Sceilen* of the Arabians, is also of some called *Vena Axillaris*: yet in truth, we following the most approued authors, take here *Axillaris* to be a braunch of *Basilica*, & that it appeareth in the bending of the arme downwards, & for Phisicke helpes is iudged to remedy those diseases, which are cured by opening of *Basilica*.

Funis brachii is like *Cephalica*, & is a branch of *Cephalica* descending, and the iudgement thereof in phisicke helpes, is as the iudgement of *Cephalica* aforesaid.

Arteries, as in whom is the greatest danger, they are placed of nature far more inwardly, & the veines are more outward, to keepe the body from dangerous hurts. Of Arteries wee purpose anone to speake, in a distinct chapter; now here wee are yet to proceed further to more particular veines.

Item

Item there are two veines in the hinder part of the head, good to bee opened against the frensy, swimminges in the head, astonishment, and other passions of the head.

Item, there are 2. veins of the temples of the head, which are opened in the cure of *Hemigrania* or the mygrā, in great & continual head-ach, in distillations of humours to the eyes, in impediment of sight, & in diseases of the ears.

Item, in the middes of the forehead betweene the two browes is a veine whose incision profiteth in heavines of the head, specially the hinder part of the head: for infirmities in the face, as rednes, morpueus, itch, scabs and in affectes of the eyes, *Cephalica* first being opened.

Item, a veine in the higher part of the forehead is opened in all diseases of the head and braine, speciallie if they bee of long continuance: also it cureth the new begun leprosie.

Item in the nose is a veine, in whose incision you must tye the necke with a napkin vntill the partes of the head swell, and the veine appeare, & this must also be done, when the veine in the forehead is opened. This veine in the tip of the Nose, is opened against apostumations of the head, rewmes, and fluxes of the Eyes: it purgeth the braine, and comforteth memory. This veine must bee sought for

very

very suerly and wisely, for it lyeth deepe, and therefore he that will be sure of it, must find it euen in the very mids betweene the 2. sides of the nose end. The 2^d veins within the nostrils are opened against heauines of the head.

Item, there are veins between the lippes & gums which are opened in apostumatiōs of the mouth & gums, *Cephalica* being first opened.

Itē, ther are veins vnder the tongue opened in diuers affects, chieflie in *Angina*, the *Cephalica* being first opened; there are 2. of them in number, they are also opened in fluxes of the head, palsies, squinances or quinsies, scroplules, apoplexies, coughs, pains of the mouth, teeth, and gums, impediments of speech: generally in all diseases of the brest, hart, lunges, and arteries.

Item, there are 2. veins within the mouth, which be opened in diseases of the head, tooth-ach, paines of the iawes, mouth and throat: also against freckles of the face.

Itē there are 4. veins in the rooſe or pallate of the mouth, which are opened in tothaches, reumes, & catarres of the head flowing to the teeth, & causing the tothach: these veins are manifest enough. *Iohā. de Sancto Amardo*, an old practisioner, setteth downe a cure that hee did on a woman grieued with tothach. First lvsed percussiuēs to stay the rewme, and it did no good: the things mitigatiue, & they did as little: the maturatiues, nether did they any good: then

Then I let her blood in *Cephalica* first, and opened (saith he) these foure veins, when the matter of the fluxe was digested, and so shee was cured: but if the matter be not digested, the opening of these helpeth not.

Item, there are certein veins in the watric angles of the eies, toward the brow, which are opened in passions of the eyes, paines of the head: *Opthalmia* that hath long continued, and in watric distillations of the eyes, the *Cephalica* first opened. Item, hereby are cured webs, spots, clouds, mistes, pearle, rednes, cornes, & such other infirmities of the eyes, with weakenes of sight.

Item, there are two veins in the concauities & hollownes of the eares, which being opened, heale shaking of the head, swimming of the eies, dissmes, pypings & sounding in the eares, vncleannes of the mouth, a new begun deafnes.

Item, there are two veins behind the eares, which are opened to preserve memorie, to cleanse the face, to take away the reume & distillations from the head, generally in all diseases of the mouth & gummes.

Item, in the temples neare the eares, are veins opened in the diseases called *Vertigo*, & the *Migrain*: and in great & continual paines of the head. This incision maketh a man barren, as *Hipp.* affirmeth, *lib. de Genitura*, & in *lib. de aere, aquis & locis*, in these words: *Quibusdam*

iuxta

juxta aures vena secta sunt. Hii coeunt quidem & genituram emittunt, verum mancā, debilem & infecundam. Some haue certeine veines cut, not far from their eares, which do the act of generation, & giue forth seede, but the same is vnperfect, weake, & barren. Neither is this cōtrarie to reason: for most of the seedie moysture descendeth from the head into the marrow of the back. *Hippo.* also affirmeth, that the noble men of *Scythia*, by incision nigh their eares, become vnfrutfull. These veines *Auicen* called *Iuueniles*.

Item, there is a veine between the chin & the neithet lip, which is opened in a stinking breth.

Item, there is a veine, lying right vnderneath the chin, which is opened also against a stinking breath, & also in diseases of the head & brest: *Polipus* in the nose, paines in the cheekes, stinking of the nostrils, spots about the face.

Item, there are two veines in the neck, one before, another behinde, that are opened in a plurisie, in a new begun leprosie, shaking of the members, humors, and distillations from the head, too much stifnes of limmes. The *Grecians* call these veines *Sphagittidas*: the Latines *Inguulares*, they are veines of the throat. The *Arabians* cal them *Guides*: the barbarous Physicians call them *Subetica*: wee may call them *Vena apoplectica*, or the sleepe veines: because being wrung hard, or pressed down, they bring

an heauie sleepe, and a cerreine droufines like the disease called *Apoplexia*: To speake plaine English: these veines of the necke or throat, being hard tyed, bring *Idias* disease .i. verie hanging. These are opened (I say) in the beginning of leprosie, when the breath is verie short, in the beginning of *Angina*: in the disease called *Asthma*: in horcenes of voice: in apostumation of the lungs: in *Dyspnaa* .i. purfines or stoppings of the lungs, caused of much hot bloud, in griefs of the Spleene & side. *Vide librum Anatomia vinorum Galeno adscriptum. Cap. 28. Rhazen. & Auicen.*

Item, there are two veines vnder the arime-holes, which are opened in streitnes of the brest, paine of the midriffe, & the lungs, in difficultie of breathing called *Asthma*.

Item, there are two veines aboue the el-bowes, which are opened in all diseases of the brest, swimming of the head, spalne, the falling sicknes.

Item, there is a veine called *Vena purpurea*, or the purple veine, lying in the right arm, next *Hepatica*, or *Basilica* toward the hand, which is opened against diseases of the spirituall members, and of the bowels.

Item, there is a veine called *Illiaca* next vnto the purple veine: which being wel takē, is good to heale paines of all the inward members.

Item, there is a veine called *vena pulsatis*, or the

the beating veine, which is opened in treblings of the heart, fowning, & *Cordiacapassio*.

Item, there are two veines in the thombes, which are opened in diseases of the head, bleared eyes, & in most feuers.

Item, there is a veine between the forefinger and the thombe, which is opened in stopping of the head, to purge superfluitie of choler, also in agewes, & diseases of the eyes.

Item, there is a veine between the ringfinger & the little finger, which is opened in diseases of the head, lungs, & splene.

Item, there is in the right hand betweene the little finger & the next adioyning, a veine caled *Saluatella* whereof before. Item, *Saluatella* in the left hand: seeke also before.

Item, there is a veine in the right side, opened in *Lienteria*, *Dysenteria*, dropfies, & other infirmities of cold matter.

Item, there is a veine in the left side, which is opened in apostumations, & excoriations of the bladder, paines of the loynes, swellings & stoppings of the splene.

Item, there is a veine in the belly, which is opened in diseases of the raines, and to purge out the Melancoly blood.

Item, there are 4 veines about the place caled *Pecten*. i. the place where the haire groweth about the priue members, on either side: which may bee opened in superfluous issues

of

of the Hemorrhoids: to allwage paine and diseases in the bladder & secret places: to stop bleeding at the nose and other members: to heale *Lyenteria, & Stranguria.* C

Item, there is a veine ouer the fore-skin of the yard, which is opened against the dropfie, and all diseases of the same member.

Item, there is a veine vnderneath the saide fore-skin, which is opened for the crampe, spalme, collick, swelling of the coddles, stranguerie, *Diffuria*, the stone in the raines & bladder.

Item, there are two veines in the thighs, which are opened in diseases of the raines and bladder.

Item, there are two veines in the legges, which are opened in dropfies, paines & apostumation of the bladder, raines, and priuie parts: in the gowt, & swelling of the knees.

Item, in the fecte there are three vaines, *Ischiatica, Saphena, & Vena poplitis*: the veine of the hamme behind the knee. These we open to reuoke blood downward, as in prouoking of menstruous Termes. But among all these, the veine in the ankle is most conuenient, as *Auicenn* saith: For, *vena poplitis*, being more nigh vnto the wombe, it draweth blood better from thence than either *Saphena*, or *Ischiatica*. When the plenitude in the bodie is not great, it is better to detract the same from the right lower veines of the hammes, & the ankle.

Vena poplitis opened, prouoketh *Termes*: so doth it fluxe of Hemorrhoids: for the force of the bloud tending downwardes, as it were, openeth the womb, & prouoketh consequently both *Termes* & Hemorrhoids.

If there be any inflammation iuor about the bely, at the beginning thereof, draw the matter vpward, and that directly: For from aboue, as from the head, the fluxe proceedeth. Neither in this case are we to feare in weomen stopping of *Termes*, by opening a veine in the arme: it presently therewithall, we open a direct veine in the hamme or ankle, which is the way to turne them aside, as we hane said already. But if first you should open a veine below, the force of the inflammation would thereby be increased.

Affects in any part vnder the raines, are most speedily cured by opening the greater veines of the hamme: the same are cured slowly, and with lesse speede, by opening *Saphena* in the ankle. The raines are in the middle betweene the vpper parts & the lower: Yet I prescribe & appoint not the position, so much by order of the member, as by the original & production of the veines passing into that part. And therefore inflammations in the right muskles, of that part called *Abdomē* aboue the nauile, .i. in the outward & vpward part of the bely or panch, are reuoked by opening a veine below: and inflammations beneath the raines in the gut *Colon*

are

are pulled back, by opening the inner vaine of the arme, as before.

Saphena is opened to withdrawe bloud from the raines, matrix, womb, stones, & yerd, & frō all mēbers placed below. *Saphena* & *Ischiatica* are braunches of one veine as *Galen* saith 6. *Aphorif.* *Saphena*, on the inner side of the legge, is opened in stopping of termes, grieve of the matrix, raines, hippes and priuie members of men or of women.

Ischiatica corruptly called *Sciatica* beginneth aboue at the huckle bone, or haunch, called *Ischias*. This veine may be called the outward *Saphena*, descending from thence on the outside of the legges. It draweth frō the raines & lower members that are outwardly placed: & is opened in paines of the huckle bone, called *Sciatica*; in griefes of the bladder & bowels: gout of the hands & feete: paines of the ioynts: palsyes: in the disease called *Vaux*. i. when a crooked veine swelleth with Melancoly blood in the temples, bellie, or legges, & in leprosie.

Itē, there are two outward veines in the ankles, which are opened in stopping of Termes, sicknesses of the Spleene, paines in the backe, strangurie and stone.

Item, there are two veines vnder the little toa, which are opened to purge superfluities of the matrix, in scrophules on the face and legges.

Item

Item, there are two veines adioyning to the little toe, which being opened, cure apoplexies, yellow Iaudies, and choler, palsies, and diseases of the raines.

Item, there are two veines in the lesser ioynt of the little toe, which are opened in olde coughes, pustles, & *Ophthalmia*.

Item, there are two veines in the middle toe, which are opened in scrophuls, diseases of the face, spots, rednes, pimples, watric eyes, canker, knots, & stopping of the Termes.

Item, there is a veine on the left ioynt in the great toe, which is opened in *Ophthalmia*, spots of the face, & legges, itch, eurl vlcers & superfluities of the matrix.

Finally, I conclude with *Vena talii*, the ankle veine, called also *Saphena*, that of the lower veines, it is of great profit, and to be opened in paines, stoppings, & swelling of the matrix, or yard: & is opened, the foote being put in a vessel of water. The *Sciatica* veine, which is one of the middle veines towarde the outside of the foot, is next in vse, for the disease calcd *Sciatica* in the huckle bone: So as first we purge with *Hiera*, and annoynt the place outwardly with oyle of the same. And when blood letting is not conuenient, (as afterward you shal heare) as also in this practise for *Sciatica*, wee may applye boxes, with scarification: as the place, humours, and time requires, and as affectes.

in the vpper partes are cured, by vpper veines, opened in the arme : so they in the nether partes, are cured by lower veines, opened in the hammes and ankles.

As wee haue hitherto declared the veines in generall & particular, with their profits in bleeding, for manifold diseases: So also, to the intent that the practitioner may be furnished thoroughly with knowledge in this point which is the most principal: and to know in euery disease what veine to open, & so not to take Hob for Gib (as the prouerb saith:) it shall not be greatly amisse for the more perfectnes herein, to teach this lesson forward and backward, as they learne their *Gammæ ut*, both waies; that intend to be good Musicians: so must those be most perfect in this discourse, that in this practise of letting blood will be accounted skilfull and good Phisicians. Nowe, therefore in a most compendious sort, I will first set downe the disease, and then the veine that is to be opened for the same.

And first, touching a body that is not yet sick & diseased: but who that is sicke, either in his whole bodie, or in some particular member in the spring & the beginning thereof, he may be let blood of any veine, of the great & generall veines, & so in the preseruatiue intention, may be kept backe, continuall & vniuersall fenners, & a general or vniuersall gowt: if there be
doubt

doubt of any particular inflammation in any particular member, let blood some veine in some part far off, whereby the vse and custome of nature, and also the fluxe of blood may be turned from that member where the danger is verie likely to rest, into some other part farre distant, and in these two pointes resteth the whole preseruatiue intention of this practise.

Concerning a patient sicke and diseased, & the curatiue intention of this practise: If he be sicke, he is diseased also, either in the whole bodie, or in some particular part: If the disease lye in the whole bodie, then the *Basilica* or inner veine of the arme is to be opened, which directly answereth vnto the Liuer, which is the verie fountaine of blood.

If the patient be sick in any particular part, the same is either aboue the necke, as in the face, or in the head: or it is beneath the necke. The diseases in the face and head are these 7. a Frensie, an Apoplexie, the *Letargus* or sleeping disease, the falling sicknesse, the *Quincie*, inflammation of the eyes, fluxe of blood from the nose.

1 In a Frensie, in the beginning thereof blood must be pulled backe from the head by opening some vaines, as will from farre withdrawe the matter: alwayes obseruing rectitude with the parte affected: and this may best be done from the *Cephalica* veine. In the state

Of a frensie, or when the force thereof is somewhat abated, first take away the repletion of the whole body, and then let blood, either in the member it selfe that is affected, or member very neere vnto it: as in this case the fittest veine is the veine of the forehead, or that veine which is betweene the nofethrils.

2 In an Apoplexie, first in the beginning therof open *Cephalica*: If that appeare not, open *Vena communis*, or *Mediana*, or that veine which is betweene the thombe and forefinger: afterward if the disease be rooted and continue: open the veyne vnder the tongue.

3 In *Lethargus* or the drowisie disease, first open *Cephalica*: afterwards if the same continue long, open the veyne of the forehead.

4 In the falling sicknes, open the selfe same veynes that are opened for apoplexie.

5 In *Angina* or quincie, first open *Cephalica*: then the veyne vnder the tongue.

6 In inflammation of the eyes, first open *Cephalica*, then the veyne in the inner angle or corner of the eye.

7 In fluxe of blood from the nose, open *Cephalica*, or *Mediana*, the common veyne.

For diseases beneath the necke, they are either about the raines, in the raines, or beneath the raines. About the raines are these foure: A Pluresie, diseases of the lungs, inflammation of the liuer, inflammation of the spleene.

1 In a pluresie, & the beginning therof, open the *Basilica* or inner veine of the arme on that side, that is pained abating and putting backe the aboundance of bloud to long, till the bloud change in colour, if so be the strength of bodie in the patient, will beare it.

2 In diseases of the Lungs, *Vena Axillaris*, or the inner veine of the arme is to be opened, or if that appeare not, the common or middle veine: or for the more forcible reuultion, wee may take the veine in the hand, betweene the ring finger and the middle finger: or that veine which is betweene the ring finger and the little finger: Alwaies respecting rectitude of opening in the right veine.

3 In inflammations & diseases of the Liver, doo as is said for the lungs *Basilica* veine: observing alwaies rectitude of members.

4 In inflammations & diseases of the splene do also as before, observing the rectitude on the left side. If the diseases be in the rames themselves, that they are inflamed: & that the same inflammation bee but a beginning: open the inner veine, or *Basilica* of the arme. If the inflammation be in his state, or somewhat relenting, open the inner veine of the ham, or anckle. If the diseases be beneath the rains, they are either diseases of the wombe or belly, or of the bladder, or priuy parts: or of menstruous termes, or of the *Hemorrhoidæ* veines, thigh, or haunch.

1 In diseases of the wombe or belly, if the fluxe be a beginning, and that there is repletion in the body: open a veyne in the arme, to turne the fluxe an other waye: when the fluxe is don, and the affect bee not remoued, open the inner veyne of the ham or ankle.

2 In diseases of the bladder, do euen so: both in their beginning and in their state.

3 In inflammation and diseases of the priuie parts, doo likewise euen so.

4 In restraint of termes, open the veyne of the ham or ankle, or scarrifie vpon the ankles.

5 In termes inmoderately flowing, open the veyne of the arme.

6 In restraint of hemorrhoids, open a veyne in the hamme or shanke, which is from the knee downe to the anklee.

7 In inmoderate fluxe of hemorrhoids, open the *Basilica* in the arme.

8 In paine or ach of the thigh or huckle bone (called *Sciatica*) first open the inner veyn of the arme, to pull backe the matter: afterward open the outward veyne of the ankle, to euacuate the same.

Finally, remember alwaies that when fulnes hath adioined with it in the body, corrupt humors, or that with increase of much bloud, there is also some euill and corrupted iuces: as happeneth in that fulnes which is onely *Quoaduies*: and in continuall feuers, ioyned with

putrification : than wee are both to let bloud,
and to purge , as was shewed before in Chap-
ter, 4.

*Certaine very old english verses , concerning the
veines and letting of bloud, taken out of a very
annuient paper booke of Phisicke notes.*

YE Maisters that vsen bloud-letting,
And therewith gotten your liuing:
Here may you learne wisedome good,
In what place ye shall let bloud,
In man, in woman, or in child:
For euils that be wood and wild.
There beene veynes thirty and two:
For wile is many, that must be vndo.
Sixteene in the head full right:
And sixteene beneath I you plight.
In what place they shall be found,
I shall you tell in what stound.
Beside the eares there beene two,
That on a child mote beene vndoo:
To keepe his head from euill turning,
And from the scale withouten letting.
And two at the temples must bleede,
For stopping and aking I reede:
And one is in the mid forehead,
For Lepry, & for sawcesleme that mot bleede.
Above the nose forsooth is one,
That for the frensie mote be yndone.

Also

Also when the eien beene sore,
 For the red gowt euermore,
 And two other be at the eien end,
 If they bleeden them to amend.
 And the web that comes thorow sinoking,
 I you tell withouten leasing.
 And at the hole of the throat, there beene two:
 That Lepry and straight breath will vndoo.
 In the lips foure there beene,
 Able to bleede I tell it be deene,
 Two beneath, and aboue also:
 I tell thee there beene two.
 For forenes of the mouth to bleede,
 VVhen it is flawne as I thee reede.
 And two in the tongue withouten lie:
 Mote bleede for the quinance.
 And when the tongue is ought aking,
 For all manner of swelling.
 Now I haue to'ld of certaine;
 That longer for the head I weene,
 And of as many I will say:
 That else where there beene in fay.

In euery arme there beene fife,
 Full good to bleede for man and wife.
Cephalica is onc iwis,
 ali- The head veyne he cleaped is,
 The body aboue and the head:
 He cleanseth fro euill and quod.

In the bought of the arme also,
 An order there must be vndoo:
Basilica his name is,
 Lowest he sitteth there ywis:
 Forsooth he clenseth the Liuer aright:
 And all other members beneath I twight.
 The middle is betweene the two,
 Corall he is cleppid also,
 That veine clenseth withouten doubt:
 About & beneath, within and without.
 For *Basilica* that I of told,
 One branched veine sty vp ful bold,
 To the thomb goeth that one braunch:
 The Cardiake he wil staunch,
 That there braunch full right goeth,
 To the little finger withouten oth:
Saluatell is his name,
 He is a veine of noble fame,
 There is no veine that clenseth so clene,
 The stopping of the Liuer and Splene.
 About the knuckles of the feet,
 With two veines may thou meet,
 Within sitteth *Domestica*:
 And without *Saluatica*.
Domestica clenseth well,
 The bladder euery deal,
Siluatika withouten doubt,
 He clenseth well for the gout,
 In the hammes a woman shall bleede,
 For stopping of her flours at neede,

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A man shall bleede there also,
 For the Hemorrhoids to fordo.
 Two veines if thou vse I say,
 The quartane thou maist vbid away.
 All the veines thee haue I told,
 That clenſeth man both yong and old.
 If thou vse them at thy need:
 Theſe foreſaid euils they dare not dread.
 So that our Lord be them helping,
 That all hath in his gouerning.
 So mote it be, ſo ſay all wee.
 Amen, amen, for charitee.

*A profitable obſervation of the blood extra-
 cted. Chap. 22.*

WHen the blood floweth ſoorth of the
 wound, the ſame is to be receiued in clean
 wiped porringers of earth, glaſſe, tinne, or ſil-
 uer: not of braſſe, leſt the ſame cauſe alterati-
 on of the ſubſtance, colour, or other quality of
 the blood, and ſo our iudgement by that oc-
 caſion be peruerſed & corrupted. Of theſe lit-
 tle veſſels, there muſt be many in number, that
 in each of them, the varietie of the blood may
 appeare and be ſeene: and they are to be ſet in
 a faire place, that no duſt, ſmoke, winde, or
 ſunne, come vnto them. The firſt obſervation
 is the ſubſtance of the blood, which ſometime
 is viſcous, & cleaueth to the fingers like glue:
 this

this floweth out but softly and slowly, because it is thicke, and it quickly againe congeleth. This kind of blood is the cause of obstructions in the body, and of such diseases as are caused by obstructions. That blood which congealeth not so soon in the porringer, is thin blood. And that which waxeth not hard, being cold: is watrish and putrified blood. Thicke & viscous blood, and compacted hard, is hardly cut or diuided, & thin blood very easily: putrified blood not at all: but as soone as it is touched with ones finger, or a knife, it is torne & rent (as it were) into small pieces.

Whey, which is (as it were) a yellow water 25 swimming on the blood, when it is clodded, sheweth either immoderat drinking, or a weak Liuer, as in hidropicall persons: or weaknes of the raines, and obstruction of the same. For these diseases cause aboundance of watry wheyish matter in the veines, mingled with the blood. The thicke blood is verie hardly imparted, or distributed among the small veines: for thereby they would soone be obstructed.

Froth swimming on the blood except the 3. force of the fluxe haue caused it, declareth heat, and inflammation of that humour, which the colour expresseth. Red some sheweth blood: yellowe some choller: white some flegme: swart some melancoly,

The colour of the congealed blood, being very red in the top, sheweth a good profitable blood. The colour red and cleere, sheweth hot blood: as that of the arteries. An obscure red colour expresseth a mean or mediocrity, as is the colour of the blood in the veines. A citrine colour. i. of the colour of a citron, golde, or orange, sheweth dominion of choler: white colour, dominion of flegme: green colour, superiority of adust choler: and a colour swart, or like lead, sheweth abundance of hurtful melancholie, with mortification of the spirites. A mixture of diuers colours, sheweth abundance of diuers humours: whether the coloured humors be putrified or no, the substance of the blood declareth. White colour cometh of good concoction, chiefly in those that haue full strength: whose vrins appeare well concoct, with most white residencies in the bottom. The blood of such persons in the veines through concoction waxe white. If the blood be white in colour, & viscous in substance: it signifieth adust flegme, by reason of burning heat in the same. If it bee not viscous, but thin & watrish, it sheweth natural flegme. The best colour in blood is red, inclining to a certaine obscurity or darknes. Purple colour very thin & cleer, sheweth choler as *Galen* witnesseth in *pri. de Cris.* If it be very dark, it betokeneth grosse blood. Greene blood sheweth perfect adust.

When

When the blood floweth forth speedely, it is fuetile and thin: when it spinneth not forth, but comes guttatim, slowly drop by drop: it betokeneth that it is grosse blood: when meanly betweene both, then is it a mean blood, betweene grosse and thin. Againe sometime it is quickly congeled, then is it grosse blood: sometime slowly compacted, and then is it subtile. Thicke and grosse blood, sheweth thicke and grosse matter in the bodie: or it sheweth great heat and drith, which hath consumed the humidity of blood. If it be subtile & thin, it sheweth want of digestion, and abundance of raw, vnconcocted humours, of hot humours, or of cold, as the colour shall discerie.

If the blood be oily, it betokeneth either a future leprosie, or too much fatnes in the body: for leprosy is caused of extremity of heat in the blood, burning the same, and conuerting it into an oily substance. Againe, take a bat round in the end, and set it to the congeled blood, if it withstand it not, but giue place vnto it, and bee diuided: it is an argument of drith. If the blood greatly resist the entrance of the bat, then is it a very thicke and viscous blood. If betweene both, then is it a meane blood. And thus of the substance of the blood, which should haue bin inserted before. And touching the colour in like sort, this brieue obseruation by the way, which was also omitted, but may come in
here

here yet in good sort a good blood is of diuers colours, according to the diuersitie of the parts: for in the vpper parte and in the compasse of the vessell, it is of a red colour: for the good blood (being light) alwaies ascendeth vnto the higher partes: in the middes it is red, and not cleere: in the bottom it is blacke and melancolious. For melancoly (being heavy) resteth alwaies in the bottome.

*in-
lo.*

Sometime there swimmeth on the toppe of the blood a certaine fatte, or oily matter, like a copweb. If the body bee very grosse and fat: this is caused of the verie blood, which is in such bodies inclining to fat. If the body be very leane, it declareth the same now to beginne to melt, and to languish.

*subsi-
ia.*

In the bottom of the clodded blood there is resident an earthly & a filthy substance, which being deuided, or clouen asunder, appeareth in colour, either red, darke, blacke, bright, or Greene: whereby we may coniecture the nature of the humour mixt with the blood: yea, & by the colour much or little, we may know, how much ech humour aboundeth in the veines.

rana. Some say, if the blood bee cut or deuided, & that there bee found in the same, certaine grainees like small sande, that it noteth leprosie, or inclination vnto it: which alwaies hath not been found true by certaine that haue

haue obserued it.

It is sildome, that the bloud comming from the veines, doth sinke: but if it doo, the same sheweth corrupt and stinking humours, and is a token of vncurable putrifaction and corruption.

No man doth willingly tast detracted blood, but if by chaunce it come into the mouth, and doo tast sweet, it is according to nature, good, and of perfect concoction. If it bee bitter in tast, it sheweth aboundance of choller: if it be sowre, sharpe, and restringent, it denotateth aboundance of melancoly: if vnsauery, aboundance of flegme: if salt, the bloud is mixt with salt flegme. After obseruation of the substance and colour of the bloud, conferre all the sinall porringers, or vessels of bloud together. If they shew all equally good bloud, it is to be supposed that the rest in the veines, is like vnto it. Yet the same is to bee withdrawen, if it offend in quantity, and greeue the body, hurting the fences, and causing in the body putrifaction and other euils. If bloud appeare corrupt, then with a greater profit, the same is to be withdrawē, because it hurteth the body two waies: both with the quantity and qualitie thereof. If it be not sufficiently withdrawen at one time, afterward againe, a veine must be opened: and beside bleeding, if Cacoehymia concur with plenitud: that is, that bloud offend both in

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quantitie and qualitie, as wee noted in the 21st Chapter: beside bleeding, the body must more ouer be purged with inward medicine.

If that blood which came first were good, and the other corrupt: then suppose that yet much such blood remaineth in the bodie, to be auoided by good order of diet, and orderly euacuation. But if it fall out so in inflammations, it is a good signe that the euacuation is absolute and perfect: quite taking away the matter of the disease from the affected member. The blood poured into warme water, bath thereby his partes and substances deuided: the wheyish and watric substance is confounded with the water, and cannot be knowne from it. Also the thinner and more subtile part of the blood is mingled with the water likewise: whereby yet notwithstanding after a sort, wee may giue iudgement of the nature of the humor. The thicker parte of the blood resteth in the bottome, which is reputed good and naturall blood: if so be it be whitish, thinne, bright, and cohering together. If the same be more grosse, it sheweth the grosseesse of the blood that remaineth in the bodie. If it be obscure, blacke, or otherwise coloured, after the difference of the colour, iudge the blood to be corrupted, or not corrupted with filthinesse of wicked humors. If it do not cohere, but be distracted and diuided: it betokeneth

keneth vncurable putrifaction.

Last of all, remember that the more vn-
pure and vnconcocted the blood appeareth,
being altered from the nature of good blood,
the same is to be withdrawen in the lesse quan-
tity, and not so plentifully, as when the same
draweth more nigh the substance of good
blood: which is done otherwise, and quite
contrarie by our common barbers and letters
of blood. And looke howe much the hu-
mors doe passe and excede, either lesse or
more, the nature of blood: so much more spa-
ringly, are wee to let blood. And when they
excede too farre from the nature of blood,
either the one waie or the other: then wee
are altogether to forbear bleeding, as wee
haue noted in a certeine place already.

*A short rehersall of eight auncient errors,
touching bleeding, and a sufficient confu-
tation of them, by auncient authorities.*

Chap. 23.

First, that blood must not be let, but in the
morning. This is confuted by Galen, lib.
de Curand. ratio. per sanguin. Missio. Capitul.
12. saying: Feare not to let blood by night:
for it is ridiculous that some doe maintaine:
onely letting blood, from the second houre

of the daye, to the fifth or sixth, and no other time.

The second error is, that obstruction and putrifaction, are the causes of letting blood. Galen also confutes this 2. Metho. Med. cap. 14. in these wordes: Neither obstruction, nor putrifaction is the cause of letting blood, but abundance of humors: for neither can stopping, or putrifaction be cured by bleding, but require other remedies.

The third error. That opening of a veine is vnnedefull, except the disease be present. This also is confuted by Galen. de Opt. sect. ad Thrasis, Cap. 37. For the most part (saith hee) we vse remedies, as purgation and bleeding, when the disease is not present but future.

The fourth error. That Phlebotomy must be done in the iudgement day of a disease. Auenicen impugneeth this in quart. primi. chap. de Phlebo. saying: Neither must bleeding nor purgation be done, in the day of the mouing of a disease, nor when the same hath Crisim. i. iudgement. But if it be possible, let there be rest. This is also proued Aphorism. 21. *Qua indicatur vel indicata sunt, &c.*

The fifth error. That bleeding dulleth the sight. Galen remoueth this error; li. de Curando ratio. per sangui. missio. Capitulum. 7. Some haue a weake sight, hauing abundance of blood: Euacuate such, either with purgation.

tion, if there bee other humors beside blood, or by bleeding, and so detracting of blood doth good, not dulling, but quickening the sight.

¶ The sixth error is, that in fulnes alwaies a veine must be opened. *Galen* confuteth this error, 4. *de vict. in morb. acut. Commentar. 13*. Plenitude is not alwaies cured by bleeding, but by rubbings, many and oft bathings, and by abstinence in VV.

¶ The seventh error is, that blood must be let, the wombe being very laxative, this *Hypocrater* refelleth, 4. *de vict. in morb. acut. cap. 118*. If it bee needefull to withdraw blood from any: you must stay the wombe, and so let blood, and *Galen* in the same place saith: If the belly bee flowing, let not blood: lest the fluxe continuing, the strength of the body bee cast downe.

¶ The eighth error is, That there is no difference of the times of the yeare, to let blood in. *Galen* contrary to this, writeth *ad Glance. cap. 14*: Those Phisitions which consider not of the state of the times, and withdraw blood, they kill men. *Et 4. de vict. in morb. acutis Commentar. 19*. If the Aire be too hote and dry, we refraine from bleeding, though the sicknes bee vehement, and the age of the party youthfull.

from the blood of the Spleen and Liver

A sufficient confutation of the supposed necessity of annuall bleeding. Cap. 24.

THere commeth here to my minde, a common opinion among the ignorant people, which do certainly belecue, that if any person be let bloud one yeare, he must be let bloud euery yere, or else he is (I cannot tell, nor they neither) in how great danger. VVhich fond opinion of theirs: whereof so euer the same sprong first: it is no more like to be true, than if I should say: when a man hath receiued a great wound by chaunce, in any part of his body, whereby he loofeth much bloud: yet after it is healed, he must needs haue the like wounde againe there the next yeare, to auoid as much bloud, or els he is in daunger of great sickness, yea, & also in hafard to lose his life: which opinion (if I did affirme to be true) albeit it be most false: yet I might vse the like reason & authoritie to defend it, that the comon people vse, in the defence of theirs. For they can say nothing, if they be asked, why they thinke so; but that they haue heard many to say so. Therefore I would wish, that no man should credit this foolish opinion, being most false, vnlesse he can shew some good reason for it, which I am sure no man can do.

This I think, that like as bloud letting is not
good

good against al diseases : so is it not good in all persons (as we haue set it down in the 9th Chapter) but only in those that wil be content to vse afterward a moderat & conuenient diet. Those therefore that do abound with blood, & wil be let blood to preserue themselves frō the danger of any disease that is like shortly to ensue, must long time after be content to vse a moderat diet : For intemperat persons & gluttons, great drinkers & wine bibbers ; they doe not only receiue no commoditie at al by bleeding, but oftentimes greater hurt, than if they had bin without it: For, within 3 or 4 dayes after, they fill & stuffe themselves with more rawe iuices & humors, by vnmeasurable dyet, than they had before : and often times these die through convulsion.

And hereupon we are to note, that there is such force in moderat diet, to eschew sicknes, that without obseruation thereof, Phlebotomy is to no purpose. And therefore if this common saying of the comō people be true in any: namely, that they must be let blood oftē, thar are once let blood: it is only true in such as keep ill diet presently after bleeding. Therefore to conclude this Chapter, I counsell al persons to beware of excesse after opening of a veine.

Of incision of Arteries. Chap. 25.

AS a veine is opened, according to our former discourse hitherto: so sometime also an arterie is opened, that is to say, only such a vein, wherein the vitall spiritues mixed with the blood do runne & flowe: but for the hard stinting of the fluxe from an arterie: Phisicians are in doubt to make incision thereof: and yet some sometime practise it (as in the disease called *Vertigo*.) If in opening of a veine, we chance to stick an arterie, we can very hardly by & by stint the bleeding: and although the matter fall out very well, that the wound or incision be brought to a skarre by diuision: yet there will be a dilation, or spreading abroad of the cut arterie still: as *Galen* witnesseth, *lib. de Curand. ratio. per sang. missio. Cap. 21. & 22.*

The bleeding of an arterie is hardly stayed; partly for the heat of the arterial blood, which is very quickly moued, & by spreading abroad, openeth the arterie, whereupon incision of an arterie greatly furthereth the bleeding: partly, because the motion of the arteries neuer ceaseth, as *Galen* witnesseth, *lib. 2. Cap. 20. de Sanitate tuend.* whereby also it cometh to passe, that the wounds of the arteries, are the more slowly cured. For such things as are to be healed, require rest & ease, *Gal. lib. 5. Cap. 8. metho. medend. & commet. 6. lib. 6. Aphorif.* The opening of an arterie is to be vsed, when the body is replete with thinne, windie, and verie hote blood.

bloud. For the seat of subtil, thinne & windie bloud, whereof the naturall heat and vitall spiritues are ingendred, is in the arteries: and so is the hottest bloud which commeth from the hottest member, that is the heart, and which is carried into the other members of the bodie, contained likewise in the arteries. The receptacles of the thicker bloud, wherewith the members are nourished, is in the veines.

Vpon what occasion Galen did cut an arterie, he himselfe sheweth, *Cap. 22. de Curand. rat. per sanguinis missio.* being warned (saith Galen) by certaine dreames, of which, two among the rest, most plainly appeared vnto mee: I went to cut that arterie of the right hande, which is betweene the forefinger and the thombe, and I let it bleede, till it stayed of it selfe: for so (saith Galen) I was warned by my dreames: and there flowed out not a whole pound: and the continuall paine ceased, that was specially in that part where the Liuer lyeth in the midriffe. I knowe one long troubled with continuall paine in the side, freed thereof, by opening an arterie in the arme: the same also being attempted through the warning of a dreame.

It is verie dangerous, either willingly, or unwillingly, to cut the greater arterie vnder the veine in the arme, or vnder the veine in the hammes: For the bloud being thinne, hote, & force-

forcebly issuing out, will hardly bee stopped, and many haue dyed of *Gangrena*, rising in the member where the incision hath bene: as did a Gentleman of new Rumpey in Kent, a yeare or two past: and so much the sooner, commeth this putrifieng, rotting and mortification to the member, when the *Phlebotome* goeth about with a band to stay *Hæmorrhagiam*: That is the dangerous fluxe of the arteriall or vitall blood. If the blood bee stayed, the wound cannot bee brought to a skarre, without *Aneurisma*: by reason of the continuall pulse, and the thicke and hard tunicles in the same place. If necessitie so require, it is best to cut the whole greater artery ouerthwartly, for the blood is soonest staid, when the ends and extremities of the artery cut asunder bee pulled vp, whereon the plaister of *Aloe* before spoken of *Cap. 49.* is to be applied.

V Without these dangers we may cut the lesser arteries, which are in the outwarde lims or members: as in the head, hands, and feete. For these may bee fastened together, chiefly in soft, moist bodies, as of women and children. These are opened in continuall and great paines, about the vppermost skinne of any member: which paine, is like a pricking, or kinde of shooting, because of sensiblenes, and much feeling of the *Membrana* or outmost skinne: and it is therewithall a beating paine, by reason of the moo-

uing

uing of the arteries. The cause of these pricking paines, is abundance of much thinne hot blood, inclosed in the arteries of the pained place, and the same is taken away, when the outward arteries, are found out and cut, which proceede from those inwarde affected members.

Fewe in our daies cut arteries, because they are not manifest to appeare in sight, nor easie to come by. Arteries cut in the temples doo remedy, hote biting humors, and fluxes of the eyes, in which cases, these arteries are wholly cut, and burnt with an hote iron, or some burning medicine.

Arteries behinde the eares are cut in swim-mings, and continuall paines of the head, caused of winde and of heate: Also in rednes of the face, and in other long continuing affects of the head.

The artery betweene the thombe and fore-finger is opened with continuall paines of the sides, betweene the bowels, and the Mid-riffe.

An artery about the ankle is opened: in long continuing paines of the huckle bones, alwaies chose that artery, which is direct to the affected member, as wee advised before in opening of veynes.

Of

*Of particuler euacuation of blood, and first of
bloodsuckers or horseleaches. Chap. 26.*

TO this discourse of opening a veyne, which is a generall euacuation of blood, is to be added, the particuler euacuation thereof, by leaches and ventosas; whereof wee will briefly speake in these two Chapters; and so conclude this our present Pamphlet.

VWhen blood is so in any member, that it cannot be pulled backe by opening of a veyne or by some other practise; the same is to bee withdrawen from the affected member; by such remedies; as may outwardly abide vpon the grieve, and so free the same of the present euill. Of this sort are Leaches. Launfing, cupping or boxing: which apparantly drawe blood, from the member affected.

Leaches or bloodsuckers, are wormes found in waters; which applied outwardly to the member, draw forth blood: They make a thre square wound, which penetrateth not only the skinne, but also more deeply if the skinne bee tender; (as is the skin of children and infants.) These being empty and well applied, sucke out blood greedily and safely; and that so long, till they swell with fulnesse, and so fall off: And sometime when they are off, the blood still followeth plentifully, especially if they were fixed
vpon

vpon so open and manifest veyne : In which case, they stand in steede of *Phlebotomy*. Thus applied to the hemeroide veynes, sometime they doo so prouoke bloud, that to stoppe the same, we are necessarily forced to vse things astringent : yea, and applied to the arme of children, they are equall to bleeding : And that extraction which is thus drawn from a hollowe veyne, is to bee accounted for an vniuersall euacuation. But when they are fixed to the hard skinne vnder which there is no great veyne, they onely empty that place that these touch : extracting very litle from the neerer parts, and nothing at all from the members far off. And therefore leaches are onely vsuall in corruptions of the vppermost skinne : as in the scab in *Vitiligo*, which is a fowlenes of the body with spots of diuers colours, whereof are three kinds : In *Impetigo* a disease which wee call the Ring-worme. In the disease called *Pannus*, which after *Celsus* is a kind of kernell growing in the grind of a man, or behinde his eares : In rednes of the nose and face, and little swellings in leproous persons. So oftentimes wee apply them to the Arse-hole called *Anus*, against melancholly diseases, caused of the stopping of hemorrhoids. In scabs, itch, and wicked wounds, they are very profitable : the body beeing first euacuated by letting of bloud. Yea, the drawing of horse-leaches is more conuenient in fulnes of bloud,

than

than scarrifieng is : Forasmuch as they fetch bloud more deeply , and also that which is withdrawn by Leaches , is more of the substance of bloud : Albeit the opinion of some is, that they drawe no bloud , but corrupt bloud , and such as is not agreeable , and proportionable vnto our bodies . And therefore in griefes which happen betweene the skin and the flesh , of bloud corrupted , these are more convenient than scarrifieng.

The attracting of bloud by Ventosas and horseleaches , hath this difference : that these drawe more deeply from the body : Ventosas but from the superficiall partes . Therefore let Leaches bee applyed to those places , from whence we would drawe humors more deeply.

Their vse and application is this : First, before they bee put to any part of the body , they must be kept all one day before , and nourished with a little bloud , which wee may giue them in a little peece of fresh flesh : then we must put them , and keepe them in cleane water , somewhat warmed : and before we vse them , with a sponge wipe away the skinne that is about them : Rubbe the part of the member affected whereto you will apply them with salt : or scratch the same till it looke red : or annoint the same with a little fresh bloud . . . Some lay on them a sponge , that when they be full , they may
fall

fall away. They are with most safety let downe in a reede or a pipe to the affected member, lest they might touch together, and so by that meanes offende those partes that are sounde and whole. And first before you apply them, so presse them and wring them out, that they may vtter and cast forth all their venome, so as their backes bee greene, and their bellies reddish.

VVee are to choose such Leaches as are not in fowle troubled blacke waters: nor such as haue long rayes or strikes in them, like rodde: called *Hyrudines Virgulata*. Nor such as are of the colour of *Lapis Lazulus*: for these are venemous. But wee are to choose them, that bee redde, inclining to the colour of the Lyuer, hauing two redde lines or strikes: or inclining to a certaine greennesse, hauing little heads, and beeing very slender, and had out of cleare flowing waters. Let them not bee blacke, nor hauing a certaine white heari-nesse vppon them, as wee see there is vppon certaine hearbes as Clarie, and vppon certaine fruites, as vpon the Quince: but (as yee heard before) take such as haue greene backes, and red bellies.

To make them fall off if neede require, put to their heads Salt, Lyme, Dust, Ashes, or Vinegar: strawe any of these vppon them, and they will fall away, if you will haue them
off

off sooner, put a horse haire betweene their mouthes and the place, and drawe them away: when they are off, wash the place with a sponge. To stint the blood after they bee remooued, if neede so require: for sometime blood floweth out two houres after the Leaches bee gone, straw vppon the place, powder of roses, or of burned gauls, or powder of a new tile, or powder of burnt straw, a little *Sanguis Draconis*: or lay on the place, powder of a sponge, and pitch burned: or a linen cloth burned: or the hearbe *Bursa Pastoris* bruised.

After the fall of the Leaches, apply cupping glasses, to purge the venome, and excrements which they haue left behind, and to withdrawe that blood, which they haue drawne somewhat outwardly, but haue not quite euacuated.

Finally I giue aduise, that before you vse them to the purposes aforesaid, you apply them being hungry, which is done thus: by keeping them in water a day, so that they eat nothing. If you will keepe them longer, put in the same water some Lambes blood; or such like, that so they may be kept aliue some season. For further matter herein, I referre thee to *Galen*, who hath written a booke *De Hirudinibus*: That is of Bloodsuckers.

Of
the
use
of
the
leech
in
the
phlebotomy

Of Cupping, or boxing & scarification, the other two particular euacuations of blood.

Chap. 27.

Forasmuch as it is not conuenient to be let blood oft times in the yeare: for that much of the vitall spirit passeth forth with the blood, and that the blood being taken away, the body waxeth colde, and the operations of nature become weake and enfeebled (as we haue before in a certeine place declared:) therefore I counsell (saith *Galen*) that the baser partes of the bodie, as the legges, be boxed or cupped, which is the most sure remedie, as well to conserue health, as to repaire the same being decayed:

For it cureth the eyes annoyed with long distillations. It profiteth also the head, & vpper partes of the bodie, as the brest and backe, and against sundrie other diseases. For in what member so euer the blood is gathered, the bodie being first purged by cupping, the griefe may be cured. Also *Oribasius* affirmeth, that it helpeth Quincies in the throat: dissolueth stoppings of all places. Notwithstanding application of boxes about the stomach, in hote feuers, where reason is troubled, are to be eschewed, for feare of suffocation. Likewise, put vnto the head vndiscreetly, they hurt both

T the

the head and the eyes.

Boxing helpeth swellings, letteth forth winde, stoppeth immoderate Termes, and the bloudie fluxe: helpeth appetite: when a woman sowneth, it reuiueth her spirites againe. It draweth forth water: asswageth hard swelling: denseth Melancolie, and that chiefly in weak bodie. It will remoue humors from place to place: as from the head to the necke: from the neck to the shoulders.

Galen wrote a booke intituled *de Cucurbitula*, that is, of the Cupping Glasse: and rehearseth vp these effectes thereof, that boxing doeth: *Non solum materiam euacuare, sed etiam dolorem soluere, Phlegmonon minuire, inflammationem discutere, appetitum: renocare, ventriculo infirmo robur addere, animi deliquio liberare, ex alio fluxiones transferre, sanguinis eruptiones cohibere, facultates mensium corruptrices extrahere, mensesque suppressere.* i. not onely euacuate the matter, but also asswage paine, take away inflammations, abate swellings, recouer appetite, strengthen a weake stomacke, reuiue those that sowe, drawe downe fluxes, and stoppe fluxes: withdrawe corruption of Termes, and also stoppe the fluxe of them: V Which effectes shall hereafter be reheased, with their cures: by this practise more particular.

There are three causes which perswade vs
to

to vse this practise, and to refraine letting of blood.

First, because our purpose is to euacuate from some one member, and not from another: and therefore particular euacuation is done by boxing or *Cucurbitulas*, which they that follow barbarous authors in Physicke doe also call *Ventosas*. Nowe particular euacuation cannot be made by Phlebotomy: for the same euacuatheth and emptieth from the whole bodie.

Secondly, because the strength is weake, or the age vnfit to bleed: or that there is some other of those impediments spoken of in the 8 Chapter. For as *Rhazes* sayeth in 7 *Ventosas* drawe blood but from the little veines: and therefore the heat and spirites are thereby but a little diminished: whereas opening of a veine greatly debilitateth nature, drawing from the greater veines with the blood, much heat & vitall spirites.

Thirdly, because our intent is to euacuate onely from the baser members. Bleeding euacuatheth from the most noble members, and greater veines: *Ventosas* from the meane members, and little small veines, which are in the outward bodily partes, and lye without the greater veines.

Of boxings there are two sortes, the one gentle without scarification or launcing: the

other with scarification, which both in steede of blood-letting are vsed, when age, debilitie, the time of the yeare, or other considerations will not permit the opening of a veine. Hereby is produced the thinne blood next the skinne: and being presently vsed after scarification, when little incisions and holes are made in the member, that blood and humors may easily come forth: it mightily withdraweth by force and flame of heat, not onely the thinne & flowing humors and spirites which are about the member after scarifying, but also that which is in places further distant. If the skinne (I say) be first exasperated with the Iron, it doth this that wee heare speake of more manifestly. If the skinne be whole and not scarified, it prouoketh blood and humors from the furthest parts into the skinne, and bringeth it to that parte, whereunto the cupping boxes are applyed. The cupping glasse infixed (the skinne being incised or launced) purgeth the outmost parts of the body more mightily, than if to the affects wee onely vsed either scarification, or onely leches.

Boxings without scarification, which are called easie cuppings, do not apparantly withdrawe blood, but only the spirites: yet it doth pull backe vnto it humors, and forcible fluxes: and applyed to the contrarie part, it stayeth effusion of blood in any place wheresoeuer:
chiefely,

chiefely, when infirmitie of strength will not permit revulsion, by opening of a yeine. Moreover it stayeth fluxes of the wombe, or of humors : and applyed to the member where the fluxe of humors is, it turneth the same another way. Also, it prouoketh outwardly that fluxe of humors which lyeth deep in the bodie: & therefore it serueth as a remedie in astonishmentes, palsies, & in veterat paines: it wasteth winde & spirites, included in any member: and therefore quickly stayeth tremblings or pantings of the heart, or else-where within the bodie, the hicket, colick, & paines of the raines. And this present kind of remedie, is without daunger: neither hurting the bodie, nor weakening the strength.

That easie & light boxings are best for revulsion, as to pull back Termes, appeareth by *Hippo. 5. Aphorif. Aphorif. 50. Simulieri menstrua sistere volueris, Cucurbitulam quam maximam, sub mammis desige.* If thou wouldst stay Termes in a woman, apply a good great cupping glasse neare or aboute her pappes. And *Galen. 5. lib. Ther. Metho.* with easie boxing, applyed *Hypocondiis. i.* the sides & short ribbs, aboute the nauill, where the Liuer lyeth on the right side, and the Splene on the left: affirmeth bleeding at the nose to be stayed, being applyed on the Liuer, or right *Hypocondrion*, if the fluxe come foorth of the right nostrill, and on

the left *Hypocondrion*, and on the Spleene: if from the left, and vpon them both, if it proceed from both the nostrils.

Againe, gentle cupping is vsed in such persons as are alreadie euacuated, in stuffed bodies, wee vse them not, nor in inflamed members, nor in the beginning of other affectes, but where as nothing else hath beene before, or where the bodie hath beene alreadie euacuated.

In this case of revulsion by cupping without scarification, as in fluxe of *Termes*, as ye heard out of *Hippo.* and in fluxe of bloud from the nose, as ye heard out of *Galen*, be verie circumspect to apply the cupping glasses on the member set ouer against the place, from whence wee purpose to pul-backe, according to rectitude of position: that the place cupped may haue agreement with the place, from whence wee purpose to reuoke. Otherwise wee doe no good, as we shewed before, speaking of revulsion in bleeding, Chap. 6.

Againe, gentle cupping is vsed without scarification, when wee will drawe humors from deepe and inward partes of the bodie to the outward members. Therefore *Galen. 13. Method. Medend.* saith: that it is *cateris attractiuis fortius*: stronger than any other attractiues: thus in harde apostumations, it draweth the matter outward: yea, and by it, hard apostumations

may

may be removed, if generall euacuation haue gone before, according as the fulnesse in the patient requireth.

Againe, it is vsed without scarification when we stay any member, or bring a member to his proper place. Thus when the bowels fall down, we apply *Ventosas* about the bellie, to reteine them or bring them back.

Also, it is vsed without scarification, to dissolve windines, as in the collick: so a certain woman troubled with the collick, tooke two narrow mouthed pots, & did put them in a great brasen vessel, & she did put the vessel of brasce to the fire, & afterward applied the two hot pots to her bellie: first couering the same with a linnen cloth, & so shee was healed.

Item, it is vsed without scarification to mitigate paines, & that in all apostumations and collicks generally, whether the same be caused of cholerike matter, flegme or windines. *Galen lib. 13. Metho. Medend. Cap. 4.* affirmeth that it wasteth wind, & so cureth the cause if it come thereof: or it mitigateth the paine, albeit it doe not perfectly cure it, of what matter so euer it come. V. Vith scarifying it is vsed, in inflamed members, stuffed or vexed with paine, in the disease called *Scirrhus*, which is a hardies growing in the flesh within the skinne, called commonly kirkels: in fluxes that are stayed in a certaine place,

Also when the parts are filled with sharp matter, or outwardly infected with venome: or when we will draw the matter from one member to another. Also, it is vsed with scarification in sharpe diseases, when the strength is weake, and nature not able to tollerate bleeding. And thus you haue heard, in what cases boxing is vsed without scarifying, & with scarifying, which is a worthie and profitable obseruation.

The difference betweene *Ventosas* & *Phlebotomy* is, that *Phlebotomy* euacuateth the grosse blood, and the other subtile and thinne blood. Againe *Ventosas* are called attraction *per vacuum*, and differeth frō attractions made by medicine, or not made *per vacuum*. Attractive medicines which do purge, attract & euacuat some certeine determined humor. *Phlebotomy* all the humors indifferently, and *Ventosas*, or attraction *per vacuum*, that humor that is most subtile and thinne among them all in that part.

The difference betweene the attraction made by *Ventosas*, and that made by leaches is this: that the leaches drawe humors from the profound and deepe places, and *Ventosas* but from the superficiall partes.

Item, fat persons are not to vse cupping: for it is with them, as with water pypes in the ground, which being filled and stopped with earth,

earth or other matter, stay the water course that it cannot run : so the veynes in the body, are like those water pipes, and are sometime so filled with fleshy fat, that the blood cannot haue his course thorow them, and therefore the veynes in fat folke, beeing either so strict, or so stopped, the Ventosas cannot withdrawe from them, but with great violence : and if they attract any thing, it is the most subtile blood, the grosse blood cannot passe thorow the stopped places.

Concerning the time, they are not to bee vsed at the new of the moone, because then the humors are quiet, and so hardly drawen, nor in the last quarter : for this season being cold, the humors are not easily attracted : but in the middle season : when the humors are flowing, and are not too colde : and vse them in the third houre, of the day, for then by reason of heate, the poores are opened, and the blood beeing then easily moouable, is with the more facility attracted to the members, and from the members,

After bathings we are not to vse them, for there were to bee feared, too great a fluxe of blood, yet if we can perceiue the blood to bee too grosse, wee may to subtiliate the same, vse bathing before in such a case, as was saide in the rules of *Phlebotomy*.

That these pointes thus generally spoken of

me hitherto, may in particuler with more profit yet now be set downe, wee will before we conclude, proceede therein a litle further, to the application of *Ventosas* particularly, in euery practise.

Boxing without scarrification are vsed, to reuoke and pull backe matter, called before reuulsion: or to turne bloud and humors aside, which was called deriuation, cap. 6.

Thus cupping reuoketh bloud at the nose, as yee heard aboue out of *Galen*, by applying the *Ventosas* vnto the sides: that is, vpon the Lyuer and right side, if out of the right nosethrills, & *contra*, as before.

Thus we stoppe fluxe of termes, applying a great cupping-glasse to the roote of the Paps, as ye heard out of *Hippocrates*.

Thus the falling downe of the wombe or matrix, is reuoked by application of the cupping-glasse, neere to the nauill.

Thus to reuoke matter

from the head,

Thus against stopping

of termes,

Thus against stopping

of hemorrhoids,

we apply them, to the inside of the Thigh:

where note, that

this better prouoketh

termes, than the opening of *Saphena* vein.

Cupping-

Cupping-glasses are not vsed for deriuation sake: that is, to turne bloud & humors aside another way, except when the body is first euacuated, or when the humors are settled in any part, and that the member is swollen, in this case, for deriuation sake, we apply *Ventosas* to the hinder part of the necke, than to the partes called *Spasula*, which ioine to the necke, sometimes also to the buttocks and haunches.

Boxing with scarrification is vsed, when some euacuation of bloud is required, standing in steede of *Phlebotomy* (as we said before) when certaine occasions hinder the same. First, in this practise wee apply the *Ventosas* to the member. Afterward we open that very part, in many places in the skinne onely, with a small penknife, for the purpose, and so applying the glasses againe, wee euacuate bloud. But wee must not doo this before the body bee first euacuated, chiefly in vncleane and corrupt bodies, lest too great abundance of humors bee drawn into that part. Boxing with Scarrification is vsed, either in the vpper partes, in the middle partes, or the lower partes of the body.

Cupping-Glasses applyed to the forepartes of the heade: offende the Senses and vnderstanding. Applyed on both the middle partes of the necke, or vppon *Nucham Puppis*: they stande in steede of opening *Vena Nigra*,
and

and they helpe heauinesse of the browes, and lighten the eie-lids: they helpe scabbines of the eies: they cause both the Parent and the childe begotten by him, to bee forgetfull. *Vuerke-*
YH.

Ventosas applyed to the lower part of the neck which is called *Acheal* standeth in steed of opening *Basilica*: they helpe pains of the shoulers and gullet: that is, the place whereby meate and drinke passeth into the stomacke: they helpe diseases of the breast, caused of bloud: the crampe caused of bloud, and trembling of the heart.

Ventosas applyed to the vpper part of the necke: that is, the very ioyning together of the head and necke: are in steed of opening *Cephallica*, and helpe in affects of the head, as the shaking, and particuler palsie of the head: yea, and in affects of the parts of the head, and therefore it profiteth for toothach: paines of the eies and eares: but there must goe before purging of the whole body: lest matter bee drawn vp againe to the heade, and fill the same, and so the diseases increase againe: as *Galen* saith, 13. *Method. Medend. cap. 4.* we must beware here in this case, not to apply them thus too oft, because they hurt the memory.

V Where as a litle before we spake of an applicatiō, which serued in steed of *Basilica*: so we say now that *Ventosas* applied about *Spondites*, serueth

serueth also in steede of *Basilica*, and cleanseth the breast : and yet hurteth the mouth of the stomacke, and causeth trembling of the heart: and therefore they are subiect to these diseases, must beware howe they vse them, and yet according to *Rhases. 2. ad Almonson*. It helpeth in trembling of the heart, caused of repletion and with heate. But it should seeme, that either *Rhases* meant of application of *Ventosas* to the lower part of the necke, called *Acheal*, which indeede (as we said before) helpeth trembling of the heart. So confounding this application with the former. VVhich the rather may so seeme, because it is said : that they both serue in steede of *Basilica* : or els (that this application hurteth the heart) is ignorantly added, and put to of some vndiscrete writer.

Ventosas applyed to or vnder the chinne, helpeth the teeth, the face and the throat, clen-
seth the heade and the Iawes : especially they cleanse the face from scabs and itch.

Ventosas applyed in the ioyning together of *Spatula* with the necke, profiteth in passions of the face, as scab or itch, and in stincke of the mouth. It may be, that this application is euen the selfe same which immediatly went before. And thus much of particuler application of *Ventosas*, to the vpper parts.

Now of their application to the middle parts of the body, applyed between the two *Spatula*:
they

By a linc

his hands, or hath a llanderous tongue; & can do they help diseases of the brest caused of bloud, and a crampe comming of the same cause, and in these two, this application agreeth with that, to the lower part of the necke, before called *Acheal*: but this last application, hath two discommodities: for they weaken the stomack, and cause trembling of heart. VVhere note, that this application seemeth one and the selfe same, with that *Super Spondiles*, and so it is true, that was there saide, concerning the offence of the stomacke and heart thereby.

Ventosas applyed aboue or vppon the raines, helpe apostumations and pushes of the thighs or haunches, scabs, gowt, and hemorrhoids, leprosie, windines of the bladder, & matrix, itchings of the back, and all diseases of the lower parts;

Ventosas, applyed vnder those parts called in Latine *Canillas*, otherwise *Alchabab*, helpeth stopping of termes: the gowt in the feete, and the *Sciatica* gowt, and thus of application to the middle parts.

Thirdly, concerning their application to the lower parts. *Ventosas* applyed aboue or vppon the thighs, or rather the shanke from the knee to the ankle: which part of the leg in Latin is called *Crus*, they stande in steede of *Phlebotomy*: they mundefie the bloud, prouoke termes, and are better than the opening of *Saphena*, to prouoke termes, in white, soft, and weake women.

Vento-

Ventosas applyed to the former part of *Coxa*: That is, the Thighes or Haunches, helpeth apostumations of the testicles and woundes of the Thighes, Haunches, and Shanks applyed to the under part thereof, they helpe apostumations of the Arle, and Buttocks: and goings but of the fundament, and blaines, and pushes in the same part.

Ventosas applyed betweene the two *Anches*: That is, hyps or buttocks: helpeth the two *Anches*: and the two inner partes of the thighs or haunches. Also the hemorroids: the gowt in the feete: and rupturs about the priuie parts of men or women.

Ventosas applyed vpon the buttockes, attract from the whole body, and the heade, and helpeth the bowels: also they helpe corruption of menstruous termes, and by meanes thereof lighten the body.

Ventosas applyed vnder the ham behinde the knee, helpe beating & shaking in the hams, caused of an hot humor: also wicked pushes, & corrupt vlcers in the shanks, & in the feet: and thus much of the particuler application of cupping or boxing glasse.

There is another kind of boxing that we haue not here to deale withall: necessary and good sometime to bee vsed, as for example sake: If you haue any sawsie Lowt, or loytering Lubber in your house, that is either too busie of

nothing but play one of the parts of the foure and twenty orders of knaues, there is no pretier medicin for this, nor sooner prepared, than boxing is, three or foure times wel set on a span long on both the cheeks: & althogh perhaps this will not alter his lubberly conditions, yet I assure you, it will for a time change his knauish complexion, and helpe him of the greene sickenes: and euery man may practise this, as occasion shall serue in his owne house to reforme them.

Because as we haue saide, boxing is often vsed together with launcing: therefore a word or two of scarrification and so an end.

Launcing is done with a Lancelot or some instrument called in Greeke *Epidermes*: and in Latine *Scalpellum*: The member is cut by litle and litle with this Chyrurginall instrument, sometime it striketh but the very skinne: sometime it goeth in deeper. It euacuateth onely out of the diuided member, except by hap it wound and hurt the veyne: Scarrification causeth the humor vnderneath to passe forth, not forcibly extracting any thing from places distant and further off: and the deeper the Instrument goeth in, the more abundant is the effusion of blood: It serueth to purge the skin, and helpeth those affects which Leaches doo cure: and those which are in the skinne, and sticke stiffly vnto the same: As old inflammations of corrupt matter, as the disease called *Scirchus* mentioned before,

before as *Gangrena*, a cankerous mortification of a member, or part of a member: as *Sphacellus*, which is when any part or member is mortified, thorow inflammation and such like, in which diseases, naturall heat beeing (as it were) choked vp, and strangled, desireth (as it were) to bee winnowed. V Where note, that Launſing doth more plentifully draw blood, if presently vpon it, boxing bee vsed, as was partly signified before.

A profitable and compendious Table of Phlebotomy or bloudletting, containing diuers points in this Treatise handled and discussed of, and setting downe by diuision the generall and speciall considerations thereunto belonging. Chap. 28.

A principall rule and obseruation.

AS in other thinges, so in bloudletting the cause is first skilfully and circumspectly to be considered, as that it bee to purge the body of some vnnaturall, naughty, and superfluous humor, whose substance is either simple, or mixt: Simple, when it doth of it selfe without the admixture of any other degenerate, as blood doth when it putrieth in the veyne, the Pores being stopped: mixt, when it is mingled with some that is already corrupted, as in the drop sic, where the blood is mixt with water

The cause beeing thus allowed, and certainly knownen for needefull and good to the Patient otherwise letting of bloud is very dangerous, and openeth a way to grieuous infirmities, as ye haue heard in this treatise.

There remaineth to be considered, how it standeth with the Patient.

Inwardly { For his Complexion.

{ For his Age.

Outwardly { For the time of the yeare, and moneth generally.

{ For the time of the day and dice particularly.

1. *Complexion.*

In the complexion is to be considered,

whether { *Sanguine*. i. hote and moyst.

{ *Colericke*. i. hote and dry.

{ *Melancolicke*. i. cold and drie.

{ *Phlegmaticke*. i. cold and moyst.

2. *The*

2. The Age.

In his age: } In his youth.
 whether } In his manly middle age.
 he be } In his elderly age.
 } In his crooked old age.

3. The time of the year.

good, as the spring: from the mid-
 dest whereof to the beginning of
 Summer, is simply the best time:
 howbeit some thinke Autumne
 reasonable good, as no doubt it is
 in regard of Summer or VVinter:
 being otherwile in it self, ra-
 ther to be reckoned for bad than
 good.

Concerning
 the time of
 the year, he
 is to be ad-
 vised what
 partes ther-
 of are

{ Verie bad, as Summer &
 VVinter, for the extre-
 mitie of heat & colde.

{ Bad

More tollerable, as Au-
 tumne, being somewhat
 more temperate.

V

4. The

4 The time of the Moneth.

The Moone being in γ . Π . α .
 ng. or the last half of α . and first
 of γ .

The Sunne, the Moone, or lorde
 of the Horoscope being in the
 signe that ruleth that member.

The Moone being in any parte
 of *via lactea*, or in *via combusta*,
 or in *demo casus sui*, or being *va-*
cua or *tarda cursu*, or in *terminis*
infortuniorum, or in the duodena-
 rial division of the 12. houses,
 placed either in 1. 6. 8. or 12.
 place thereof, or applying to the
 lord of the house.

Concerning
 the time of
 the Moneth
 these gene-
 rall cautions
 are to be ob-
 served, that
 he be not let
 bloud in any
 member with
 chirurgicall
 instrument:

The day before the day it selfe the
 day after the change of the Moone.
 Halfe a naturall day, that is 12.
 hours before & as many houres
 after the quarters of the Moone.
 A day before & a day after the
 full of the Moone.

A day before & a day after the
 coniunction, quartile opposition
 of the D with h or g .

A day before the coniunction of
 the D with q . q . or the head or
 the taile of the Dragon infortu-
 nate, and euill.

*The con-
nienst time
of the yere.*

For the Sanguine: the Moone
being in any of the signes.

For the cholericke: the Moone
being in ♄. or ♀.

For the Melancolick: in ♃. and
first halfe of ♎.

For Flegmatick: the Moone be-
ing in ♊. or ♋. Howbeit
some commend ♄. ♃. and ♀.
for bloud letting.

*Also the
best & most
laudible a-
spectes for
this purpose
are these, ac-
cording to
our soundest
writers.*

The coniunction of the Moone
with ♄. or ♀. are simply the
best: so that ♀. bee not com-
bust.

The Δ. or ✱. of the ☾. with
♄. ☉. ♀. and ♀. are good:
but especially with ♄. or ♀.

The II. or ☉. of the ☾. with
♄. or ♀. doth well.

The Δ. or ✱. of the ☾. with ♄. are
indifferent good.

*The time of
the Moneth
for*

Youth : from the chaunge to the
first quarter.

Middle age : from the first quar-
ter to the full.

Elderly age : from the full to the
last quarter.

Old age : from the last quarter to
the chaunge.

Reason of this rule is : Like reioyseth in his
like. Howbeit as we haue taught in this Trea-
tise no childe would bee let bloud before four-
teene yeares of age : nor olde man after three-
score and ten, vnlesse his strength be the greater
and somewhat more than ordinary, at those
yeares.

§. The time of the daie.

*The time of
the day must
be either*

Morning : after the rising of the
Sun, when a man is yet fasting:
which is simply the best, ex-
cepting the houres of 6. and 7.
and choosing the houres of 11.
and 5. whose nature is most
temperate.

Afternoone : after reasonable
good, or rather perfect digesti-
on and expulsion of of super-
fluities.

Here

Herewithall regard must be had of the aire, that it bee neither too hote, nor too colde: or cloudy: but milde, cleare, and temperate: the wind being then either Northerly or westerly. The Southwind is counted no friend to *Phlebotomy*: whereof this is the reason, heate looseth too much: cold bindeth too much.

An Exception.

NOtwithstanding the premisses of bloud-letting before: The Frensie, Squinancie, Pluresie, and Apoplexie, or for a continuall headach proceeding of choler or bloud, for any hote burning Feuer, or other extreme paine and desperate disease: A man in such a case may not tarry a chosen time regularly set downe by the Astronomer or Phisition: for so the Patient might miscarry in the meane season. But incontinently with all conuenient speede, hee is this way to seeke his remedy: except either he bee very weake, or like to sowne, or that the Moone bee in the same signe that ruleth that very part of the body. V Where also note, that in the foresaid case of extremity, bloud is not to bee let in so great a quantity as otherwise it would, if a chosen time might conueniently be expected.

As before bloudletting, these circumstances of complexion, age, and times are to be consi-

dered; So after the same, consideration is to be had of our meats and exercise.

For meates such must bee taken as are of an easie and light digestion.

For exercise wee are to abstaine from all exclusiue, vntill the fourth day, not onely those that be vehement: as riding, running, leaping, vawting, wrastring, fencing, tennis, &c. But also such as are more mi'de, as walking, bowling, bathing, and especially Venerie: whereof wee haue spoken in the twentieth Chapteer: and I doubt not but I may effectually conclude, (both antecedent and consequent limitations dueily and orderly obserued) this auncient practise of *Phlebotomy* to bee very commendable both for the preseruatiue and curatiue intention of Physicke.

Conclusio Operis.

And thus according to my simple skill, and poore talent, I haue set downe those remedies, which withdraw bloud, either from the whole body generally, as *Phlebotomy*: or from certain parts particulercly, as Leeches, boxing, and scarification: which was my purposed determination at the beginning to doo. If any thing bee here set down repugnant to sound skill, I craue pardon; hauing no skill to iudge, because Physicke is not my profession: onely drawn with
a delight

a delight in this practise: First, for my pleasure,
now (I trust) for others profit, I haue further
trauailed herein, than I thought to haue done.
If any fault or error be in the order, methode, or
disposition, I assigne that vnto my selfe, crauing
pardon for ought that is amisse: protesting in
truth, (which a man may easily discerne) that
this booke is rather a collection from others,
than an inuention of mine owne. God graunt
that this my trauaile herein, (whatsoever it bee,
may make vnto his glory, and the comfort of
his people, which are the two impulsive causes,
moouing euery good Christian, one way or o-
ther, to imploy his indeuour.

Deo laus honos & gloria in omne aenum.

FINIS.

1890-1891

[Faint, illegible handwritten notes]

C The Contents of the seuerall Chap- ters in this Treatise.

Cap. I **O**F fulnes, emprines, and their diuisions.

2 What euacuation is, and the kindes and differences thereof.

3 What Phlebotomie is, and from whence the opening of a veyne doth euacuate.

4 Whether Phlebotomie must goe before purging or contrary.

5 Of the effects, that is, the profits & disprofits of bleeding.

6 Of reuulsor, that is, pulling backe and deriuation, that is, turning a side of blood and humors by opening of a veine.

7 Whether purgation by sledge or inward medicine recoiued can not, or may not euacuate the blood, and the reasons answered that are brought for prooffe thereof.

8 Of the impediments or lets of Phlebotomy, and of the causes requiring and furthering the same.

9 Of such persons as are meete or not meete to be let blood.

10 What corruption of humors, bleeding remoueth from the veynes generally.

11 A particular rehearsal of those diseases present or future, which are cured by bleeding.

12 What volūtary eruption of blood profiteth in sicknesses.

13 How to know by certayne signes the greatnes of the disease, & the firmenesse of the natural forces, wherby coniecture may be made whether the patient be to be let blood or no.

14 To know by the greatnes of the disease, and strength of the natural powers, the quantity of blood that must be withdrawne.

15 An obseruation of things present and past, and also a foresight of things future, needfull and necessary to the further knowledge of the quantity of blood that must be taken.

16 Of the times and seasons of the sickness of the yeare, of the day, and houre of the day, when a man is to bleede or not to bleede.

17 Of Astrologicall obseruation in bleeding, and of an o-

ther obseruation neerely annexed vnto the same, shewing what members and parts of the body are to bee opened according to the seuerall seasons of the yeare.

18 What preparation must goe before bleeding.

19 What is to be done in the very time of the incision.

20 A prescription or regiment of the patient after bleeding.

21 What veynes are to bee opened both in generall and particular diseases.

22 A profitable obseruation of the blood extracted.

23 A short rehearsal of 8. auncient errors touching bleeding, and a sufficient confutation of them by auncient authorities.

24 A sufficient confutation of the supposed necessitie of annual bleeding.

25 Of incision of the arteries.

26 Of particuler euacuation of blood, and first of bloodsuckers, and Horse-leaches.

27 Of cupping or boxing, and scarrification: the other two particuler euacuations of blood.

28 A profitable compendious table of Phlebotomy or blood letting, conteinuing diuers poynts in this Treatise handled, & discussed off, and setting downe by deniſion the generall and speciall considerations thereunto belonging.

*The names of the authors whose
help is chiefly used in this
Collection.*

Aristotle, Actuarius, Aetius,
Auicen, Alexius, Andernacus,
Auerroes, Arnoldus de villa noua.
Bacchanellus,
Bullein Anglus.
Cornelius Celsus.
Eliora Anglus.
Fernelius. Fuchsius.
Galenus. Gesnerus.
Hippocrates. Rich. Harneius Anglus.
Hollerius.
Iohannes, de Santo Amando.
Iohannes de vigo.
Mesue.
Oribasius.
Paulus Aegineta.
Rhasis.
Rondoletus.
Schola Salerni.
Weckerus.

